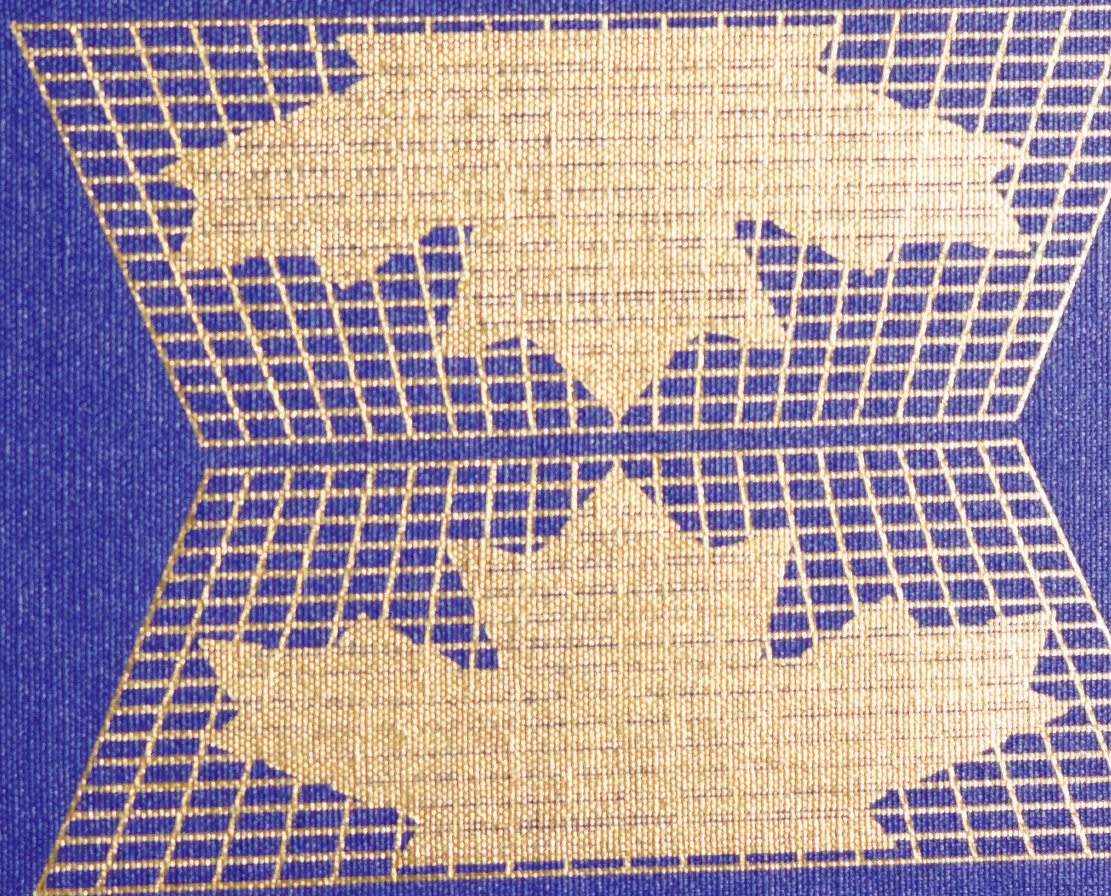




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**INVESTMENT  
CANADA**

# **The Canadian Edge**









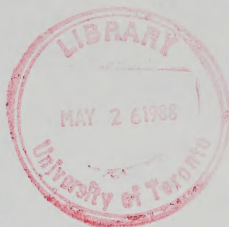
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# *The Canadian Edge*

INVESTMENT CANADA

February 1988





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# QUICK FACTS CANADA

OCTOBER 1987

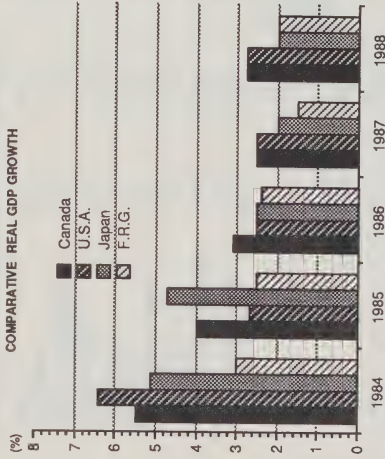
## INVESTMENT CANADA

### GROSS DOMESTIC PRODUCT AT FACTOR COST

Industry	1984	1985	1986	Change 1985-86 %
Agriculture, Fishing, Trapping	10.6	11.2	12.1	8.0
Logging, Forestry	2.1	2.1	2.4	14.3
Mines, Quarries, Oil Wells	19.0	19.9	19.0	-4.5
Manufacturing	62.2	65.2	66.3	1.7
Construction	23.0	24.1	24.6	2.1
Transportation, Storage, Communications	24.4	25.5	26.5	3.9
Other Utilities	10.2	10.8	11.0	1.9
Trade	36.2	38.7	40.9	5.7
Finance, Insurance, Real Estate	48.7	51.4	53.4	3.9
Community, Business, Personal Services	35.1	36.5	39.1	7.1
Non-Business Sector	61.8	62.3	63.7	2.3
Total	333.3	347.7	358.9	3.2

Source: Statistics Canada; Gross Domestic Product by Industry, Dec. 1986 (Cat.# 61-009).

### COMPARATIVE REAL GDP GROWTH



Source: OECD Outlook, June 1987.

### INVESTMENT AND THE STOCK OF CANADIAN CAPITAL

Year	Total Gross Capital Stock*	Non-Govt Gross Capital Stock*	Non-Govt Capital Stock* As % of GDP	Non-Govt* Investment As % of GDP
1980	902.3	730.5	235.7	15.8
1981	1054.6	853.3	239.7	16.7
1982	1187.2	965.5	257.6	15.7
1983	1273.3	1033.7	255.0	13.0
1984	1356.2	1098.9	247.9	12.3
1985	1448.8	1177.9	247.3	12.5
1986	1540.3	1257.9	264.1	12.7
1987	1648.1	1344.8	266.2	12.5

(\$billion)

\* Less residential construction; Includes Crown Corporations.  
Source: Statistics Canada, Fixed Capital Flows and Stocks

### THE CANADIAN ECONOMY: A STATISTICAL PROFILE

	1984	1985	1986
Real Gross Domestic Product (\$b1981)	374.5	389.3	401.5
Real GDP Growth Rate (%)	3.6	4.0	3.1
Gross Domestic Product (\$billion)	443.3	476.4	505.2
Labour Force (thousand)	12,069	12,069	12,069
Employment (thousand)	11,000	11,111	11,634
Unemployment (thousand)	1,069	1,328	1,236
Unemployment Rate (%)	11.3	10.5	9.6
Housing Starts (thousand)	134.9	165.8	181.0
Current Account Balance (\$billion)	3.4	-0.6	-8.8
Prime Rate**	12.06	10.58	10.52
Corporate Profits (\$billion)	43.4	47.5	45.2

\*\* Average of month-end rates. Rate at September 24, 1987 was 9.57%.

Sources: Bank of Canada Review;  
Statistics Canada, Canadian Statistical Review.

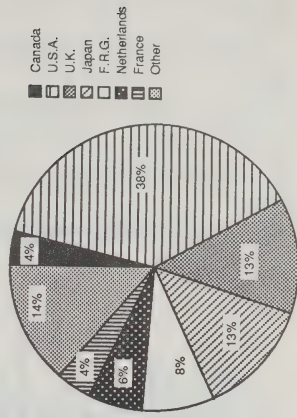
### DOMESTIC INVESTMENT IN CANADA NEW CAPITAL EXPENDITURES

Industry	1983	1984	1985	1986	1987*
Agriculture, Fishing	4.1	4.2	3.1	2.9	2.7
Forestry	0.2	0.2	0.2	0.2	0.3
Mining, Quarrying, Oil Wells	9.6	9.7	10.5	7.2	6.1
Construction	1.3	1.3	1.2	1.4	1.5
Manufacturing	8.9	9.1	11.5	13.9	15.1
Utilities	15.5	14.4	13.7	13.7	12.9
Trade	2.0	2.4	2.5	2.5	2.7
Finance, Insurance, Real Estate	3.9	4.0	5.7	6.9	7.6
Commercial Services	3.9	5.0	6.7	7.8	7.6
Institutions	2.9	2.8	3.1	3.3	3.4
Housing	13.0	12.5	21.2	25.6	28.2
Sub-Total	65.3	65.5	79.7	85.3	88.4
Government Administration	8.3	9.8	10.8	10.4	11.0
TOTAL	73.6	75.1	90.5	95.7	99.4

\* Interiors at beginning of 1987.

Sources: Statistics Canada,  
Private and Public Investment in Canada (61-206).

### SHARE OF GLOBAL FOREIGN DIRECT INVESTMENT: 1984



Source: Stanford & Dunning, World Directory of Multinationals; Group of 30; Foreign Direct Investment, 1973-1987.

# DIRECT INVESTMENT STOCK AND CAPITAL FLOWS

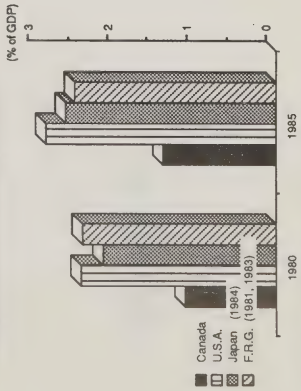
## FOREIGN DIRECT INVESTMENT IN CANADA

Year	Gross Inflows		Gross Outflows		Net Inflows		Net Outflows	
	Book Value	Flows	Book Value	Flows	Book Value	Flows	Book Value	Flows
	(\$ millions)		(\$ millions)		(\$ millions)		(\$ millions)	

1980	61637	4227	-3427	800	25653	1766	-8176	-3150
1981	66525	4801	-9201	-4400	35789	1276	-8176	-6900
1982	68712	4090	-5090	-1000	33769	3364	-4439	-1075
1983	72573	4012	-3712	300	38121	2470	-5840	-3400
1984	75573	3796	-2096	1700	42768	2309	-2950	-2950
1985	83941	3643	-6593	-2950	50417	1976	-7076	-5100
1986	93000	7540	-5990	1550	56100	3696	-4817	-4521

Source: Statistics Canada, Canada's International Investment Position.

## GROSS EXPENDITURE ON R&D AS % OF GDP



Source: Statistics Canada.

## SOURCES AND DESTINATIONS OF FOREIGN DIRECT INVESTMENT 1985

A. Sources:		B. Destinations:	
Book Value of FDI in Canada		Canadian Investment Abroad	
	(\$ billion)		(\$ billion)
United States	63.4	United States	35.5
United Kingdom	7.7	United Kingdom	7.7
F.R. of Germany	2.4	Indonesia	3.0
Netherlands	2.0	Bermuda	1.5
Japan	1.8	Australia	1.0
France	1.4	Brazil	0.7
Switzerland	1.4	F.R. of Germany	0.7
Bermuda	0.8	Other	0.5
Other	3.0	Total	50.4
Total	83.9		100.0

Source: Statistics Canada, Canada's International Investment Position.

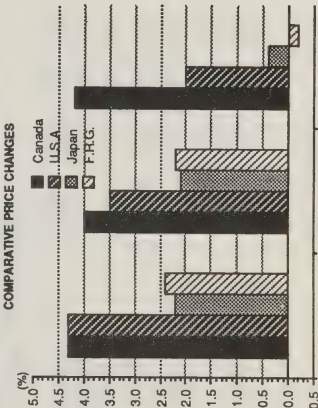
# PRINCIPAL CANADIAN DOMESTIC EXPORTS

Commodity	1986		Average Annual Growth Rate 1976-1986	
	(\$)	%	%	%
Transportation Equipment	38.0	32.6	15.2	
Metal Ores, Concentrates and Scrap	3.5	3.0	3.3	
Wood & Paper	17.2	14.8	10.4	
Food, Beverages, Tobacco	9.5	8.2	8.7	
Non-Ferrous Metals	7.4	6.3	13.1	
Chemicals	5.5	4.7	10.8	
Industrial Machinery	3.9	3.3	14.5	
Iron & Steel	2.4	11.1		
Crude Oil, Natural Gas, Coal	8.1	7.0	6.1	
Refined Petroleum	2.1	1.8	14.1	
Communications, Computers and Other Live Equipment	6.8	5.8	18.6	
Other	12.1	10.4	14.2	
Total	116.5	100.0	12.0	

## PRINCIPAL CANADIAN IMPORTS

Commodity	1986		Average Annual Growth Rate 1976-1986	
	(\$)	%	%	%
Transportation Equipment	38.4	34.0	14.0	
Food, Beverages, Tobacco	6.5	5.8	9.0	
Chemicals	5.8	5.2	13.3	
Communications and Computers	9.4	8.3	19.8	
Special Industry Machinery	7.5	6.7	8.9	
Other Industrial Equipment	7.5	6.6	11.2	
Oil and Coal	3.6	3.2	-0.5	
General Purpose Machinery	3.4	3.0	10.1	
Non-Ferrous Metals	3.1	2.7	20.1	
Textiles, Clothing, Footwear	5.0	4.4	10.7	
Metal Concentrates, Scrap	2.0	1.7	16.5	
Other Products	20.8	18.4	10.8	
Total	113.0	100.0	11.7	

Source: Statistics Canada, Summary of Canadian International Trade.



Source: OECD Outlook, June 1987.

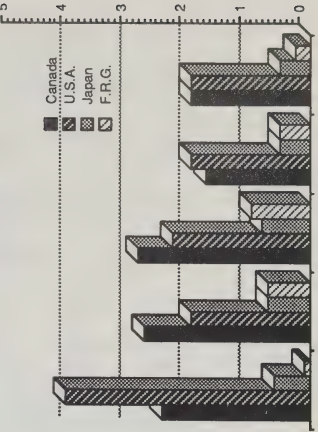
# DIRECTION OF 1985 CANADIAN MERCHANDISE TRADE

Country	Domestic Exports		Imports		Balance
	(\$)	%	(\$)	%	(\$)
United States	90.3	71.5	71.3	69.6	13.0
Japan	5.9	5.1	7.6	7.7	-1.7
United Kingdom	2.6	2.2	3.7	3.3	-1.2
U.S.S.R.	1.2	1.0	*	*	1.2
P.R. of China	1.1	0.9	0.6	0.5	0.5
F.R. of Germany	1.3	1.1	3.5	3.1	-2.2
S. Korea	1.0	0.8	1.7	1.6	-0.8
France	1.0	0.8	1.6	1.4	-0.6
Italy	0.7	0.6	1.7	1.5	-1.0
Taiwan	0.6	0.5	1.7	1.6	-1.1
Netherlands	1.0	0.8	0.7	0.6	0.3
Mexico	0.4	0.3	1.2	1.1	-0.8
Belgium-Luxembourg	0.7	0.6	0.8	0.7	-0.2
Hong Kong	0.8	0.7	0.6	0.6	0.2
Australia	0.3	0.3	1.0	0.9	-0.7
Sweden	0.6	0.5	0.5	0.5	0.1
Other	0.2	0.2	0.8	0.7	-0.6
Total	7.0	6.0	7.6	6.7	-0.5
	116.6	100.0	112.7	100.0	3.9

\* Less than 0.05

Source: Statistics Canada, Summary of Canadian International Trade.

## COMPARATIVE EMPLOYMENT GROWTH



Source: OECD Outlook, June 1987.

## HOURLY MANUFACTURING PRODUCTION WORKER COMPENSATION COSTS

Country	1980	1985	1986	1987	1988
Canada	9.87	15.23			
United States	11.46	18.19			
Japan	6.56	13.20			
West Germany	14.41	18.67			
United Kingdom	8.63	10.36			

Source: U.S. Bureau of Labour Statistics, converted to Canadian dollars at annual average of noon spot rates.







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## GENERAL INFORMATION

Canada is a politically stable democracy with a market-based, free-enterprise economy, the seventh largest in the western industrial world. The standard of living is among the highest in the world.

Canada's pioneering heritage and cultural diversity have led to a co-operative spirit between business and government. That spirit lives on in Canada's desire to attract entrepreneurs and investors.

This chapter presents an overview of the highlights of Canada's people, institutions, economy, culture and geography.

### 1 CLIMATE

Canada's regional climates are controlled by the geography of North America and by the general movement of air from west to east. The Pacific coast is cool and fairly dry in summer, but mild, cloudy and wet in winter. Interior British Columbia has climates which vary more with altitude than latitude: wet windward mountain slopes with heavy snows in winter; dry rainshadow valleys, hot in summer; and high plateaus with marked day-to-night temperature contrasts. Interior Canada, from the Rocky Mountains to the Great Lakes, has a continental climate with long, cold winters, short, warm summers and scant precipitation. Southern portions of Ontario and Quebec have a humid climate with cold winters, hot summers and ample precipitation. The Atlantic provinces have a humid, continental climate with a maritime effect in the coastal areas. On the northern islands, along the Arctic coast and around Hudson Bay, arctic conditions prevail. Long, frigid winters and only a few months with temperatures averaging above freezing are typical. Precipitation is light in the tundra area north of the treeline. Boreal Canada, between the arctic and southern climates, has a transitional climate with bitter, long winters but appreciable summer periods. Precipitation is light in the west, but heavier in the Ungava Peninsula.

Temperature and precipitation data for various districts are shown in Table 1. Additional data and reports concerning Canada's climate are available from the Atmospheric Environment Service of Environment Canada.

### 2 GEOGRAPHY AND POPULATION

Canada is the largest country in the western hemisphere and the second largest in the world. Its land area of 9.2 million square kilometers (3.6 million square miles) varies from the almost semi-tropical Great Lakes peninsula and southwest Pacific coast to wide fertile prairies and great areas of mountains, rocks and lakes, to northern wilderness and Arctic tundra. About 60 percent of Canada's population lives between the US border and a line running from Sault Ste. Marie to Quebec City. (See Table 2 for population and land area statistics.) This area contains Canada's two largest cities, Toronto and Montreal, as well as Ottawa, the nation's capital, and smaller cities, including Hamilton, London, Windsor, Kitchener, Sudbury, and Quebec City. Major centres in northern Ontario and the prairie provinces include the cities of Thunder Bay, Winnipeg, Regina, Saskatoon, Edmonton and Calgary.

TABLE I  
HIGH AND LOW TEMPERATURES AND PRECIPITATION DATA

	<u>Temperatures (Celsius)</u>		<u>Precipitation</u>		
	Mean	Mean	Total	Ave. No.	of days Precipitation (all forms)
	<u>Jan.</u>	<u>July</u>	all forms <u>mm</u>	Snow <u>cm</u>	
Newfoundland St. John's	-3.8	15.3	1,511.5	363.7	210
Prince Edward Island Charlottetown	-6.7	18.4	1,127.8	305.1	169
Nova Scotia Halifax	-3.2	18.3	1,318.8	210.8	152
New Brunswick Saint John	-7.1	17.1	1,400.3	309.4	152
Quebec Montreal	-8.9	21.6	999.0	243.1	164
Quebec City	-11.6	19.2	1,088.6	326.6	164
Ontario Thunder Bay	-14.8	17.5	738.5	222.0	141
Toronto	-4.4	21.8	789.9	141.0	134
Manitoba Winnipeg	-18.3	19.7	535.2	131.3	121
Saskatchewan Regina	-17.3	18.9	397.9	114.8	114
Alberta Edmonton	-14.7	17.5	446.5	132.1	121
Calgary	-10.9	16.5	437.1	153.9	113
British Columbia Vancouver	2.4	17.4	1,068.1	52.3	161
Yukon Whitehorse	-18.9	14.1	465.3	211.6	148
Northwest Territories Hay River	-25.5	15.6	260.3	127.8	118

Source: Statistics Canada, Canada Yearbook.







TABLE 2  
POPULATION DISTRIBUTION AND LAND AREA: CANADA & PROVINCES

	<u>Population</u>		<u>Annual Ave.</u>	<u>Land</u>	<u>1986 Population</u>
	<u>1976</u>	<u>1986</u>	<u>Growth Rate</u>	<u>Area</u>	<u>Density</u>
	(000)		(1976-86)	(000 km <sup>2</sup> )	(Persons/km <sup>2</sup> )
Canada	22,993	25,591	1.1	9,205	2.8
Newfoundland	538	580	0.8	372	1.6
Prince Edward Island	118	128	0.8	6	21.3
Nova Scotia	829	884	0.6	53	16.7
New Brunswick	677	721	0.6	72	10.0
Quebec	6,234	6,627	0.6	1,358	4.9
Ontario	8,264	9,182	1.1	917	10.0
Manitoba	1,022	1,079	0.5	548	2.0
Saskatchewan	921	1,021	1.0	570	1.8
Alberta	1,838	2,390	2.7	638	3.7
British Columbia	2,467	2,906	1.7	893	3.3
Yukon	22	23	0.5	532	-
Northwest Territories	43	51	1.7	3,246	-

- Less than 0.1

Source: Statistics Canada.

Smaller locations include Brandon, Yorkton, Moose Jaw, Battleford, Red Deer, Medicine Hat and Lethbridge. The country's third-largest city, Vancouver, lies on the lower British Columbia mainland. Other major BC population centres are Victoria (on Vancouver Island) Penticton and Kelowna, in the Okanagan Valley, Prince George and Prince Rupert. See Table 3 for the population of the largest centres.

Canada is bounded on the west by the Pacific, on the east by the Atlantic and on the north by the Arctic ocean, affording direct shipping access to all world markets.

Abundant water supplies have been an essential ingredient in the development of Canada's industrial production, hydroelectric power, fisheries, agriculture, recreational activities, transportation and wildlife resources. About eight percent of Canada is covered by lakes and rivers. The largest freshwater bodies in the world are the Great Lakes, which, along with the St. Lawrence River and Seaway, provide a gateway to Canada's largest markets, as well as direct access to the US midwest via Chicago and the heavily industrialized states of Ohio, Indiana, Illinois, Pennsylvania, Michigan and New York. Direct shipping to and from other areas of the world is a regular feature of Seaway traffic.

TABLE 3  
1981 and 1986 Census Counts, Census Metropolitan Areas (000)

<u>Census Metropolitan Areas</u>	<u>1981 Census</u> <sup>1</sup>	<u>1986 Census</u>
	14,314.1	15,155.7
Calgary	626.0	671.3 <sup>2</sup>
Chicoutimi-Jonquière	158.2	158.5
Edmonton	740.9	785.5 <sup>2</sup>
Halifax	277.7	296.0
Hamilton	542.1	557.0
Kitchener	287.8	311.2
London	326.8	342.3
Montreal	2,862.3	2,921.4 <sup>2</sup>
Oshawa	186.4	203.5
Ottawa-Hull	743.8	819.3
Quebec	583.8	603.3
Regina	173.2	186.5
St. Catharines-Niagara	342.6	343.3
St. John's	154.8	161.9
Saint John	121.0	121.3
Saskatoon	175.1	200.7
Sherbrooke	125.2	130.0
Sudbury	156.1	148.9
Thunder Bay	121.9	122.2
Toronto	3,130.4	3,427.2
Trois Rivières	125.3	128.9
Vancouver	1,268.2	1,380.7
Victoria	241.5	255.5 <sup>2</sup>
Windsor	250.9	254.0
Winnipeg	592.1	625.3

<sup>1</sup> Based on 1986 area.

<sup>2</sup> Excludes population of one or more incompletely enumerated Indian reserves or Indian settlements.

Source: Statistics Canada, Census of Canada, 1986.

### 3 GOVERNMENT

#### 3.1 The Constitution

##### 3.1.1 History of the Constitution

Canada is a federal state, established in 1867. In that year, at the request of three separate colonies (Canada, Nova Scotia and New Brunswick), the British Parliament passed the British North America (BNA) Act, which "federally united" the three "to form...one Dominion under the name of Canada".

In essence, the act embodied (with one modification which provided for the appointment of extra senators to break a deadlock between the two Houses of Parliament) decisions that delegates from the colonies, the "Fathers of Confederation", had themselves arrived at.

The federation initially consisted of four provinces. The pre-Confederation Province of Canada was divided into the two provinces of Ontario and Quebec, while Nova Scotia and New Brunswick retained their former limits. In 1870 the Parliament of Canada created Manitoba. British Columbia entered the federation in 1871 and Prince Edward Island in 1873. In 1905, Parliament created Saskatchewan and Alberta, and in 1949, welcomed Newfoundland.

Canadians had acquired internal self-government prior to Confederation, and the new country gradually acquired full control over external affairs. Canada became a fully sovereign state in principle in 1926, although it was not until the proclamation of the Constitution Act (1982) that the last formal vestige of Canada's former colonial status was finally removed.

### 3.1.2 Division of Powers and Status of Languages

The BNA Act (now renamed the Constitution Act, 1867) gives the Canadian Parliament power to "make laws for the peace, order and good government of Canada in relation to all matters...not...assigned exclusively to the legislatures of the provinces". The act added a list of examples of this general power, which includes legislating with respect to: defence, raising money by any kind of taxation, regulation of trade and commerce, navigation and shipping, fisheries, currency and banking, bankruptcy and insolvency, interest, patents and copyrights, marriage and divorce, criminal law and criminal procedure, penitentiaries, interprovincial and international steamships, ferries, railways, canals and telegraphs, and any "works" situated within a province that are declared by Parliament to be "for the general advantage of Canada". An amendment in 1940 added unemployment insurance to the federal jurisdiction.

The act of 1867 gave Parliament and the provincial legislatures concurrent power over agriculture and immigration, with the federal law prevailing over the provincial in case of conflict. Amendments have since provided for concurrent jurisdiction over pensions, but with provincial law prevailing in case of conflict.

The Constitution Act, 1982 established the equal status of English and French in all the institutions of the Parliament and Government of Canada and of the legislature and government of New Brunswick. English and French may be used in the debates of the legislatures and in any pleading or process of the courts of Quebec and Manitoba and must be used in keeping the records and journals of the legislatures of those provinces.

In addition to these language rights, the Constitution of Canada provides language-of-education rights for the linguistic minority, whether anglophone or francophone, in each province or territory. The constitution sets out certain educational rights for some denominational groups, and it affirms and recognizes the rights of Canada's aboriginal peoples. The Canadian Charter of Rights and Freedoms protects the fundamental freedoms, the democratic rights, the mobility rights, the legal rights and the equality rights of all Canadians.



Each provincial legislature has exclusive power over: the amendment of the provincial constitution (except as regards the office of Lieutenant Governor, the legal head of the provincial executive), natural resources, direct taxation for provincial purposes, prisons, hospitals, asylums, charities, municipal institutions, licences for provincial companies, solemnization of marriage, property and civil rights, administration of justice (including the establishment of civil and criminal courts and civil procedure), matters of a merely local or private nature, and education, subject to certain safeguards for denominational schools in Newfoundland and Protestant or Roman Catholic schools in the other provinces. Judicial decisions have given "property and civil rights" a very wide scope, including most labour legislation and much of social security.

### 3.1.3 Amendments to the Constitution

The unanimous consent of Parliament and the legislatures of all the provinces is required for amendments to the constitution respecting matters such as the office of the Queen, the Governor General or the Lieutenant Governor of a province, and the composition of the Supreme Court. For other constitutional amendments of general application, the consent of Parliament and seven provinces representing at least 50 percent of the population is required. However, where an amendment derogates from the legislative powers, the proprietary rights, or any other right or privilege of the provincial legislature or government, the legislative assembly of a province can express its dissent and the amendment will not have effect in that province. In such a case, if the amendment is one transferring legislative powers to Parliament relating to education or other cultural matters, Canada shall provide reasonable compensation to any province in which the amendment does not apply.

The Constitution Act and its amendments provide only a skeletal governmental framework, which is filled out by judicial interpretation, by various acts of Parliament and of the provincial legislatures and, most of all, by custom or "convention".

The powers of the Crown are exercised, as the Fathers of Confederation put it, "according to the well understood principles of the British Constitution". Canada has inherited and elaborated on these conventions to suit its own needs.

## 3.2 The Executive

### 3.2.1 The Governor General and the Queen

Canada is a constitutional monarchy. The executive government "is vested in the Queen" of Canada, who is also Queen of the United Kingdom and the Commonwealth countries. In strict law, the powers of the Crown are very great. In fact, they are exercised on the advice of a Cabinet responsible to, and having the confidence of, the House of Commons, the members of which are elected by the people. The powers of the Crown are normally exercised in the Queen's name by her personal representative, the Governor General. Always a Canadian, the Governor General is appointed on the advice of the Prime Minister of Canada.

Except in extraordinary circumstances, the Governor General or the Queen must act on the advice of ministers. On the advice of the Prime Minister, the Governor General appoints the ministers and the members of the Senate. The Prime Minister decides when Parliament meets and normally decides when Parliament is to be dissolved for a general election, although one must be held at least once every five years. The Governor General in Council (on the advice of Cabinet), appoints judges of the superior, district and county courts, the Lieutenant Governors of the provinces, deputy ministers and other senior government officials.

### 3.2.2 The Cabinet and Prime Minister

The Cabinet and the Prime Minister derive their powers from convention rather than the law of the constitution. The Constitution Act provides only for a "Queen's Privy Council for Canada" appointed by the Governor General to "aid and advise" him or her. The Privy Council consists of all Cabinet ministers, all former ministers and various distinguished individuals appointed as a mark of honour; membership in the Privy Council is for life. It is to some extent an honorific body, its practical importance being that membership in it is an essential requirement for holding ministerial office, and that only Privy Councillors currently holding ministerial office may advise the Governor General through orders-in-council.

The Cabinet is an informal body composed of those Privy Councillors currently holding ministerial office, and is presided over by the Prime Minister. As of July 1987, the Cabinet has 38 members, including the Prime Minister. By convention, all ministers must be members of Parliament and most ministers are members of the House of Commons. It is customary, insofar as representation in Parliament permits, for the Cabinet to include at least one minister from every province, with the more populous provinces receiving greater representation.

The members of the Cabinet must speak as one on all questions of government policy. A minister who cannot support that policy must resign. Each department minister is answerable to the House of Commons for that department. The Cabinet is answerable to the House for government policy and administration generally.

If the government is defeated in the House of Commons on a motion of want of confidence, it must either resign office (at which point the Governor General calls on the Leader of the Opposition to form a new government) or seek dissolution of Parliament, which leads to a general election. The latter procedure is generally followed. Defeat of a major government bill is ordinarily considered a vote of want of confidence, leading to the same consequences, but the government can choose to consider any such defeat not decisive. The House then has the option of voting on a motion of want of confidence.

Only the government can introduce bills for the raising or spending of public funds. Members of the House of Commons, other than ministers, may move to reduce proposed taxes or expenditures, but not to raise them. The rules of the House allot most of the time for debate of government business and nearly all legislation now comes from the government. If the parties fail to agree on a timetable for dealing with the various stages of a bill, the government has the power to move closure, so as to cut off debate. The rules are careful to provide abundant opportunity for the Opposition to question,

criticize, and move amendments to the government's bills. Twenty-five days of each parliamentary year are specifically allotted to the Opposition to debate any subject it chooses, and on six of these days it can move want of confidence.

### 3.3 Parliament

Parliament consists of the Queen, the Senate and the House of Commons.

#### 3.3.1 The Senate

The Senate is composed of 104 seats with the following distribution: 24 from Ontario, 24 from Quebec, six from Newfoundland, 10 from Nova Scotia, 10 from New Brunswick, four from Prince Edward Island, six each from Manitoba, Saskatchewan, Alberta and British Columbia, one from the Yukon and one from the Northwest Territories. As of July 1, 1987, the political distribution is as follows: 66 Liberals, one Independent Liberal, 31 Progressive Conservatives, five Independents and one vacancy. Senators are appointed by the Governor General who, by convention, does so on the advice of the Prime Minister. Senators must retire at age 75.

The Senate and the House of Commons have identical legislative duties and powers, with the exception that financial bills must originate in the House of Commons. Much of the Senate's work is done in expert committees, where recommendations may be made to amend bills. Private bills, most of which are non-political, usually originate in the Senate. On occasion, the Senate provides a forum for debate on important social and economic issues of the day.

#### 3.3.2 The House of Commons

The House of Commons has 282 members: seven from Newfoundland, 11 from Nova Scotia, 10 from New Brunswick, four from Prince Edward Island, 75 from Quebec, 95 from Ontario, 14 each from Manitoba and Saskatchewan, 21 from Alberta, 28 from British Columbia, one from the Yukon and two from the Northwest Territories.

As of July 21, 1987, the Progressive Conservatives held 208 seats, the Liberals 40 and the New Democratic Party 33. One constituency is represented by an Independent. The number of constituencies allotted to each province is computed according to the democratic principle of representation by population, on the basis of a complex formula contained in the Constitution Act. The total number of members, and the representation of each province, is readjusted after each decennial census. However, no province can have fewer members in the House of Commons than in the Senate.

In the House of Commons, all bills pass through three stages known as readings. The first, at which time the bill is tabled, is purely formal. On the second reading, the House gives the bill consideration in principle and, if satisfied, refers it to a committee, where it is dealt with clause by clause. Supply and budget bills, and such others as the House thinks fit, may be referred to the Committee of the Whole, which is the whole House sitting under special rules allowing detailed discussion. All other bills are sent to one of the 29 Standing or Standing Joint Committees, each of which has specific areas of



responsibility. The appropriate committee reports the bill to the House, with or without amendments. At this stage any member of the House of Commons may propose amendments, which are debatable. Third reading then follows. If the bill passes this last stage, it is sent to the Senate, where it goes through a similar procedure, after which it receives Royal Assent, completing the process by which legislation is enacted.

### 3.4 Political Parties

#### 3.4.1 The Role of Parties in the Canadian Political System

The Canadian Constitution would be unworkable without political parties. Political parties and party discipline make possible a stable government, capable of carrying its policies into effect. They also provide a continuous organized criticism of government. They make possible an orderly transfer of power from one government to another. They help to educate the electorate on public affairs and reconcile divergent elements and interests from different parts of the country.

#### 3.4.2 The Progressive Conservative, Liberal, and New Democratic Parties

The Liberal Party has its roots in the pre-Confederation Reform parties that struggled for the establishment of parliamentary responsible government in the 1840s. The Progressive Conservative Party dates from a coalition of moderate Conservatives and moderate Reformers in the province of Canada in 1854. It was broadened into a national party in 1867 when Sir John A. Macdonald, the first Prime Minister of the Canadian federation, formed a Cabinet of eight Conservatives and five Liberals or Reformers, whose followers soon came to be known as "Liberal-Conservatives". The present name was adopted in 1942. The New Democratic Party dates from 1961, when the major trade union federation, the Canadian Labour Congress (CLC), and the Co-operative Commonwealth Federation (CCF), joined forces to launch a new party. The CCF was founded in 1932 by a group of farm and labour parties in the western provinces.

#### 3.4.3 Majority and Minority Governments

The party in power is the party with more than half of the elected members in the House of Commons. The other parties with members in the House are called opposition parties. An important task of opposition parties is to criticize and try to improve new laws proposed by the party in power. Members not affiliated with one of the official parties are called independents.

When no party has a majority in the House, a minority government is formed. A minority government requires the support of members of one or more other parties to remain in power.

A major concern of federal politics is to maintain harmonious relations between regional concerns and those of the country as a whole. Provincial parties are independent of federal parties and may take a different stand from their federal counterparts on regional interests.



Canadians choose governments by voting in general elections which are held every five years or less. Voting is by secret ballot and every adult Canadian citizen has one vote. The candidate receiving the largest number of votes in his or her electoral riding, or constituency, represents that riding in the next Parliament.

### 3.5 Provincial and Territorial Government

In each province, the machinery of government is similar to that of the central government, except that no province has an upper house. The Crown is represented by a Lieutenant Governor.

Northern Canada west of, and many islands northeast of, Hudson Bay constitute two territories, the Yukon and the Northwest Territories. Although they come directly under the Government and Parliament of Canada, the territories enjoy a growing degree of self-government.

The Yukon is administered by a Commissioner, appointed by the Government of Canada, and an elected Council of 16 members from which an Executive Council is appointed. This council is responsible to the elected Council in much the same way as a provincial ministry is responsible to a provincial legislature. The Commissioner in Council can pass laws dealing with direct taxation for local purposes, establishment of territorial offices, sale of liquor, preservation of game, municipal institutions, licences, incorporation of local companies, property and civil rights, solemnization of marriage and matters of a local and private nature.

The Northwest Territories is administered by a Commissioner, appointed by the Government of Canada, an elected Council of 24, and an Executive Committee composed of the government leader and seven members of the elected council who are nominated by the council. The Commissioner in Council has powers similar to his or her counterpart in the Yukon.

### 3.6 Municipal Government

Municipal government, under provincial jurisdiction, varies from one municipality to another. All municipalities (cities, towns, villages and rural districts) are governed by elected councils. In Ontario and Quebec, there are also counties which group smaller municipal units, and regional municipalities for large metropolitan areas.

In general, municipalities are responsible for police and fire protection, local jails, roads, hospitals, water supply and sanitation, and schools (often administered by distinct boards elected for the purpose of education). Municipalities generate their revenues mainly from taxes on real estate, fees for permits and licences and grants from the provinces. The total number of municipalities in Canada stands at about 4,500.

Many Canadian municipalities have economic development organizations to encourage growth and development of the local area. These organizations (often departments within city administration) provide information and assistance to potential investors.

3.7 Languages

Canada's two major linguistic groups have been one of the dynamic forces that shaped the country and contributed to its unique character. To safeguard this heritage, the federal government has ensured that both English-speaking and French-speaking Canadians have equal opportunities to participate in Canada's future.

In 1963, the government appointed a Royal Commission on Bilingualism and Biculturalism to inquire into a wide range of questions relating to language and culture in Canada. Following the publication of the first volume of the commission's final report, the federal government proposed an Official Languages Bill which Parliament adopted in July 1969, and which came into force in September of the same year.

The act stipulates that "the English and French languages are the official languages of Canada" and that they "possess and enjoy equality of status and equal rights and privileges as to their use in all the institutions of the Parliament and Government of Canada".

The act states that, in the National Capital Region and other areas where there is sufficient demand, federal government services shall be available in both official languages. A Commissioner of Official Languages reporting directly to Parliament, ensures compliance with the act. It should be noted that the aims of the act and federal official languages policy as a whole are not to make all Canadians bilingual, but to ensure that, wherever they are reasonably concentrated, those who speak English and those who speak French may deal with the federal government in their own language.

The provinces have the responsibility of setting language policy within their own jurisdictions. New Brunswick is the only officially bilingual province. Other provinces provide services to the public in both official languages where warranted.

4 ECONOMY

Canada's economy is the seventh largest in the western industrial world. With a 1986 gross domestic product of about \$505 billion, it is also one of the most diversified. Canada grows, develops, mines, processes, designs, manufactures or fabricates everything from communications satellites to disease-resistant wheat, from advanced aircraft to strategic ores and metals, and from nuclear power stations to newsprint.

4.1 Resources, Services and Manufacturing

Canada's economy has evolved from one based primarily on natural resources to one of the world's leading industrial economies, ranking fourth in gross domestic product per capita. The country's lakes and rivers, which account for more than 15 percent of the world's fresh water, generate up to 75 percent of Canada's power needs through hydroelectric energy. Manufacturing is a large contributor to the country's annual output, but, as in other highly advanced countries, there has been a shift from a predominantly goods-producing economy to a predominantly services-producing one.

Service industries such as trade, finance, real estate, insurance, and personal and business services, account for some 62 percent of the country's domestic output in the 1980s. As such, they complement the important role played by Canada's resource industries and manufacturing concerns.

#### 4.1.1 Canada's Economy in the 1980s

Canada's leading industrial activities are petroleum refining, motor vehicle production, pulp and paper milling, meat processing, iron and steel milling and machinery and equipment manufacturing.

Since the early 1970s, Canada's manufacturing industry has undergone profound technological changes. The advent of advanced electronics, robotics, computers and electronic communications has brought Canada to the forefront in many areas of technology. Canada's industries are dedicated to serving world markets and increasingly, companies are moving towards world product mandating. The establishment of facilities and incentives in research, development and education in electronics hardware and software are demonstrating Canada's aptitude in application and adaptability to advanced technology. Canada is on the leading edge of communications research (the telephone was invented here), especially in the development and application of communications satellites, fibre optics and cellular radio. Canada is a leader in the field of medical research, with such historic advances to its credit as insulin, the heart pacemaker and the cobalt bomb, used in the treatment of cancer. Canada has also made a significant contribution to space exploration by developing the Canadarm, the robot arm found on NASA space shuttles.

#### 4.2 Foreign Trade

In 1986, Canada exported approximately 27 percent of its gross domestic product and imported almost 26 percent of all the goods and services it consumed. In dollar value, Canada is the western industrialized world's seventh most important trading nation. The US is Canada's most important trading partner. Other major trading partners include Japan, the United Kingdom, the Federal Republic of Germany, France, South Korea, the People's Republic of China and the USSR. South America, the Caribbean, Asia, the Pacific Rim countries and Africa, also have important trade ties to Canada.

#### 4.3 A Market-based Democracy

Canada is a market-based democracy in which both the private and public sectors are active participants determining and developing what products are to be manufactured. A politically stable and democratic country, the basis of the Canadian economy is free enterprise, ranging from small, owner-operated businesses to large multinational corporations. In some areas such as health, social services, communications and transport, government involvement has traditionally been extensive, owing to various geographic and demographic factors. Often, government programs are established to supplement those initiatives undertaken by the private sector. Such government programs are designed to expand and diversify the Canadian economy.

5 MINERALS, RESOURCES AND ENERGY5.1 Minerals and Resources

Canada ranks first in the world in mineral exports and third in mineral production, behind the US and the Soviet Union. Canada is the world's largest producer of asbestos, zinc, silver, and nickel and the second largest producer of potash, gypsum, molybdenum, and sulphur. It is a leading producer of uranium, aluminum, cobalt, gold, lead, copper and iron. Mineral deposits are located in all regions of Canada. Table 4 lists the level of production and value of selected minerals.

5.2 Energy

Canada is a major producer of hydroelectricity, oil, and gas and, unlike most of its industrial partners, is a net exporter of energy (mainly gas and electricity). Canada is self-sufficient in oil, with crude petroleum being the largest single contributor to Canada's mineral output. In 1986, domestic Canadian oil production averaged 249.7 thousand cubic metres per day. Proven reserves in 1984 (year-end) totaled 1124 million cubic metres. (Included are the arctic reserves and the vast deposits of the Alberta tar sands.) Canada also produced in 1986 some 82.6 billion cubic metres of natural gas. The United States imports about four percent of its natural gas requirement from Canada.

TABLE 4  
SELECTED MINERALS - PRODUCTION, 1986

	<u>tonnes</u>	<u>\$ million</u>
Metals		
Cobalt	2.5	56.2
Copper	768.2	1,568.0
Gold (000 kg)	104.7	1,715.4
Iron Ore	36,096.0	1,254.8
Lead	303.5	204.4
Molybdenum	12.9	113.9
Nickel	180.6	1,075.5
Silver	1.2	310.1
Uranium	11.0	923.8
Zinc	1,055.1	1,304.1
Non-Metals		
Asbestos (Ktonne)	640.0	300.6
Gypsum (Ktonne)	8,542.0	80.6
Potash (Ktonne)	7.0	579.0
Sulphur (Ktonne)	7.6	994.1

Source: Statistics Canada, Canada's Mineral Production 1986, (Cat. #26-202) unless otherwise indicated. One tonne = 2200 lb.



## 6 EDUCATION

### 6.1 Compulsory Aspect

Canada has one of the most comprehensive and enlightened education systems in the world.

Canadians have a legal obligation to send their children to school from the age of five, six, or seven, depending on their province or territory of residence, until the minimum school-leaving age, which also varies between 15 and 16. Most children remain in school well beyond the compulsory age. Some parents choose to start their children's education as early as the ages of three or four by enrolling them in kindergarten or nursery classes.

### 6.2 A Provincial Responsibility

Responsibility for education rests with the provinces. Although each province has developed its own distinctive system, the general standards and course of study are similar across the country.

Provincial departments of education supervise their school systems, certifying teachers, providing financial assistance to locally elected school boards, and determining curricula. They also delegate authority to local boards for building and maintaining schools, hiring staff, and in certain cases developing courses of special interest in their communities.

### 6.3 From Pre-school to Secondary School

In all provinces, education is divided into four levels: pre-school, elementary, secondary, and post-secondary.

Although Canadian children are not legally required to attend school until they reach entry age, many working parents may wish to enroll younger children in pre-schools, day nurseries or local kindergarten classes.

When children reach the required school entry age in their area, they must be enrolled in elementary school, where their formal education will begin. Students normally complete their primary education in six to eight years.

Students then move on to secondary school or high school, where they are usually given a choice of several programs. For example, they can pursue studies leading to junior or senior matriculation, enabling them to enter college or university, or they can opt for technical or vocational training to learn occupational skills and trades in preparation for employment.

Classes in both elementary and secondary schools usually begin in September and end in June. Most schools have mixed classes of boys and girls.

In some provinces, there are publicly supported separate schools which give special emphasis to religious teaching.

Less than five percent of Canadian students attend private schools. These schools do not normally receive government assistance. They usually follow the same curricula as public schools, but place more emphasis on preparation for further studies at the university level.

#### 6.4 Universities and Colleges

More than half of all high school graduates enter post-secondary institutions - universities, colleges or specialized institutes. There are 67 universities in Canada. Student admission is decided solely by the university, but high school graduation is normally a prerequisite. In general, equivalent certificates from other countries are accepted as qualifications for entry into Canadian universities. About 38 percent of all university students are enrolled on a part-time basis.

The academic year at most universities lasts about eight months, starting in September. It takes from three to four years to complete a course of study and graduate with a bachelor's degree.

As an alternative to university education, more and more Canadian students are attending other institutes of learning at the post-secondary level, such as community colleges which offer one- to four-year courses in applied arts, business administration, and technology. High school graduation is generally required for entrance to community colleges, but criteria for admission tend to be more flexible than at universities.

#### 6.5 Foreign Students

Foreign workers in Canada, with employment authorizations (work permits), whose children are with them and who have student authorizations from Employment and Immigration Canada, may enroll their children in elementary and secondary schools in their area of residence. These students are accepted on the same terms as Canadians or permanent residents (landed immigrants). There is no differential fee. Parents in Canada on visitors' visas will either not be allowed to enroll their children or be charged a fee to enroll them in elementary or secondary schools. These fees are generally between \$4,000 and \$5,000 per year per student. Differential fees are charged for post-secondary education to non-Canadians or those without permanent resident status. These fees can be as low as \$1,100 and as high as \$10,000 per year and are set by the individual institutions. Some institutions set non-Canadian student quotas.

#### 6.6 Job-Related Skills

Training in job-related skills is also available at business colleges, vocational institutes and trade schools throughout Canada. Some high school education is usually required for entry to such courses, which may run from one to three years, depending on the skills to be learned.

Both federal and provincial governments assist apprentices in industrial and vocational training programs. Such programs combine on-the-job experience with classroom instruction and may extend over a period of two to five years. Two or more years of secondary school education are required for enrollment as an apprentice. On successful completion of training, apprentices receive a journeyman's certificate, which is a prerequisite in certain work trades in Canada.

#### 6.7 Adult Education

Adult education programs are in much demand in Canada. Every year well over a million men and women who have left the school system return to attend day or evening classes at secondary and post-secondary schools. Their attendance may be either for their own enjoyment or in pursuit of a certificate, diploma or degree. Schools, including universities, often allow adult applicants who lack formal education requirements to enrol as special or mature students. Also, adults often take correspondence courses to upgrade their knowledge or expertise, or to learn new skills.

In 1984-85, the federal government spent \$1.1 billion on institutional and industrial training. This was an increase of 6.7 percent over 1983-84. The provinces, for the same period, expended \$537 million. A variety of adult education courses are also offered by professional and community associations, churches, libraries, businesses and government departments.

#### 6.8 Universality and Funding

From the time children enter elementary school, until they progress through the secondary system, their education is free, unless parents or guardians choose to send them to private schools. In some provinces, there may be a charge for textbooks and other school supplies. The public school system is financed by local taxes and government grants.

Fees are often charged at the pre-school level. These may vary considerably from province to province and from institution to institution, requiring careful comparison and consideration by parents before registration.

There are tuition charges for courses at the post-secondary level. Fees at community colleges are typically lower than those at universities or colleges. Business, vocational and trade schools also charge moderate fees. In Quebec, tuition is free at community colleges (known as CEGEPs - Collèges d'enseignement général et professionnel), and students pay only for textbooks.

Students often work during summer holidays to help pay for their post-secondary education. Provincial and federal governments provide assistance in the form of scholarships, grants and loans, but newly-arrived immigrants may not be immediately eligible for such assistance.

Provincial apprenticeship programs and federal training courses are usually free, and some students may even be eligible for a living allowance while training.

6.9 Language of Instruction

With the exception of Quebec, the language of instruction in schools, colleges, and universities is usually English. In areas with a large French-speaking population, instruction may be in French or English, or both.

In Quebec, French is the usual language of instruction. At the elementary and secondary levels, students must enrol in French-language schools unless their parents meet certain requirements stipulated by the Quebec government. Immigrants who settle in the Province of Quebec must send their children to French-language schools, but an exemption may be obtained if their stay is a temporary one.

6.10 Facts and Figures

In 1984-85, education was the primary activity of 6,065,799 Canadians, or about 25 percent of the total population. There were 5,728,708 full-time students being taught by 337,091 full-time teachers in educational institutions. Education expenditures for 1984-85 reached \$31.9 billion, or 6.7 percent of Canada's 1985 gross domestic product (GDP).

Lower birth rates in recent years and lower levels of immigration have resulted in an enrollment decline in elementary and secondary schools. This trend persisted through the 1980s. In turn, post-secondary institutions will feel the effects of this trend.

Elementary-secondary enrollment in 1984-85 was 4,945,913, a decline of 0.6 percent from 1983-84, and of 16 percent from the all-time high of 5,900,000 recorded in 1970-71. Elementary enrollment was down 11.1 percent from the 1968 high of 3,844,000 to 3,417,677 in 1984-85.

Secondary enrollment patterns resemble those of the elementary level, but lag seven or eight years. The secondary decline is expected to last until the early 1990s.

Full-time post-secondary enrollment in 1984-85 was 782,795. University enrollment made up 59 percent of the total. However, the rate of increase during the past decade and a half was lower than that of the community college sector, where full-time enrollment increased by 94 percent, from 166,100 in 1970-71 to 321,603 in 1984-85. Full-time university enrollment went from 309,500 to 461,192, an increase of 49 percent.

In 1984, 289,531 students graduated from secondary schools, a 0.2 percent increase over the previous year.

Universities conferred 92,816 bachelor and first professional degrees, 14,572 masters degrees, and 1,878 doctoral degrees in 1984. Community colleges awarded 82,087 diplomas.

Expenditures for education from kindergarten through graduate studies reached \$30.5 billion in 1983-84, up 7.9 percent over the previous year. Elementary-secondary education consumed about \$20.0 billion of the 1983-84 total, universities \$6.0 billion, community colleges \$2.4 billion and vocational training \$2.0 billion.



In 1981, the median number of years spent at school by Canadians was 11.8. This ranged from a low of 10.4 in the Northwest Territories to a high of 12.3 in Alberta, British Columbia and the Yukon. By way of international comparison, Canada ranked second among OECD countries behind the US, which averaged 12.6 years, and ahead of Japan with 11.2 years. Some nine percent of the Canadian population not in the regular school system had obtained at least some university or equivalent education, compared to 32percent in the United States, 14percent in Japan, 10percent in the Netherlands, five percent in Germany, four percent in France, six percent in Sweden and five percent in the United Kingdom.

## 7 QUALITY OF LIFE

### 7.1 Standard of Living

Canada's overall standard of living ranks among the highest in the world. In terms of wealth, measured by Gross Domestic Product per capita, in 1985 Canada ranked fourth, behind the US, Switzerland and Norway. With a population of 25.6million, Canada's gross domestic product ranked seventh in the world, ahead of many, more populous countries. Canadians are a mobile people. With fair distances between major centres, 82percent of Canadian households own automobiles, vans or trucks. This compares to 90percent of US households. Other western industrial countries such as Japan, France, Germany, and the UK have household vehicle ownership rates of between 60percent and 70percent. Canada also ranks very high in the percentage of households owning other durable goods, such as refrigerators (99percent), washing machines (76percent), telephones (98percent), televisions (99percent), radios (99percent), video tape recorders (35percent), and microwave ovens (34percent)<sup>1</sup>.

Some 63percent of Canadian families own their homes, the quality and size of which is among the highest in the world (see section 7.5).

Canadians have extensive choice and supplies of food. The domestic food industry supplies a diversified range of fish, meats, vegetables, fruits and dairy products. A significant proportion of Canadian production is exported (\$9.5billion in 1986), including meat, fish, cereals and fruits. Because of the nature of the climate and length of growing season, food imports are also substantial (\$6.5billion in 1986), most from the US and tropical countries.

From 1970 to 1982, prices in Canada rose by 270percent. By comparison, prices increased by 437percent in the UK, 319percent in France, 255percent in Japan and 248percent in the US. Food prices rose by 315percent in Canada, compared to 463percent in the UK, 362percent in France, 251percent in Japan and 253percent in the US, from which most Canadian food imports originate. In 1986, Canada's consumer price index rose by 4.1 percent.

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<sup>1</sup> Statistics Canada, Household Facilities and Equipment, May 1986.



## 7.2 Health

### 7.2.1 Provincial Plans and Services

Health services in Canada, as in other western industrialized countries, are expensive. To reduce the burden, the provinces act in concert with the federal government to provide extensive protection under medical and hospital care plans. As a result, most basic health costs are covered by public medicare insurance. Although both hospital and health care plans are national in scope, they are administered by the provinces and territories, and vary among jurisdictions. In Ontario, Alberta and British Columbia, a premium is charged for coverage, while in others the cost of medical insurance is financed from taxation and everyone living in the province is covered. Most provincial plans give immediate coverage to newly-arrived immigrants.

Annual premiums as of July 1987 for the following three jurisdictions are: Ontario - \$357 for singles and \$714 for families; Alberta - \$216 for singles and \$432 for families; BC - \$240 for singles, \$444 for two persons and \$504 for families of three or more. By comparison, in the US, many employers (for example, the auto manufacturers) pay substantial sums to their workers in the form of health care insurance premiums, to cover either workers or their families. In some instances, this fringe benefit may amount to over \$3,000 per employee. In Canada, even if the employer pays the full cost per employee, basic hospital and physicians' services coverage would be no more than \$714 per year.

Hospital and physicians' services are generally covered by all plans. Family planning services - available from a variety of sources - are also usually covered, in whole or in part. A resident may be insured for special services, such as medical specialists and eye examinations, under some plans. Provincial medicare plans do not generally cover dental care unless dental surgery is done in a hospital. A number of provincial plans are being directed to meet the needs of specific population groups, such as mothers and children, the aged, the needy, and those requiring rehabilitation. It should be noted that prescription drugs are not normally covered.

Canadians are paying increasing attention to illness prevention. There are a number of national programs to safeguard the public from health hazards. These include controlling environmental pollution, setting health and safety standards, and monitoring foodstuffs and medical drugs.

Efforts are also being made to encourage men and women to adopt a healthier lifestyle by reducing self-imposed risks. Government programs discourage careless driving and the abuse of drugs alcohol and tobacco. At the same time, they encourage exercise and physical fitness, both inside and outside the workplace. Governments may also provide financial assistance to groups and organizations which promote recreational activities.

### 7.2.2 Life Expectancy and Infant Mortality

Average life expectancy for Canadian males at birth rose from 66.3 years to 72.9 years between 1959 and 1984. For females, the increase was from 70.5 to 79.8 years. This ranks Canada among the top 10 western industrial countries. By comparison, in the US the life expectancy of males and females was 1.7 and 1.6 years lower, respectively. A low infant mortality rate of 9.2 per 1000 live births placed Canada ninth in the world in 1982, after Finland (6.0), Japan (6.2), but before West Germany (10.9), United Kingdom (11.0) and US (11.5). The Canadian rate in 1982 was almost one-quarter of the 1950 rate.

Canadians averaged only five days off annually due to illness, compared to seven in the US and 10 in Norway. Only Ireland had a lower rate (four days). Canadians rank ninth in the world and first in the western hemisphere on the physical quality of life index (POLI)<sup>2</sup>, which is a combined measure of life expectancy, infant mortality and literacy. Canada's score on the POLI was 96 out of 100. The top score, shared by Iceland, Japan, the Netherlands and Sweden, was 98; the US ranked 11th, the United Kingdom 17th and Japan was second.

The Index of New Social Progress (INSP)<sup>3</sup> is a combination of 55 factors measuring education, health, the status of women, defence spending, economic factors, demographic factors, geography, political stability, political participation, cultural diversity and welfare effort. Canada again ranks first in the western hemisphere and 11th overall, well above the US (23rd), the UK (28th) and Japan (13th).

### 7.3 Crime

Canada is a comparatively safe place where, even in the larger metropolitan areas, people are not afraid to walk about at night. This situation is reflected in the lower crime statistics, compared to the US, where restrictions on ownership of concealed weapons are fewer. Canadians are not permitted to own or carry concealed weapons such as handguns or knives, without police authority. Rifles and shotguns may be licensed for hunting purposes.

Table 5 is a comparison of crime rates between Canada and the US, and illustrates the number of incidents per 100,000 population. The Canadian rate for robbery was 42.4 percent that of the US, for armed robbery 36.8 percent, for homicide, 24.3 percent (1984). Violent crimes in Canada accounted for six percent of all crimes, compared to 20 percent in the US. In 1986, violent crimes accounted for seven percent of all crimes in Canada.

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<sup>2</sup> G.T. Kurian, New Book of World Rankings, New York: (Facts on File Publications, 1983).

<sup>3</sup> Ibid.

TABLE 5  
COMPARATIVE CRIME STATISTICS - CANADA AND US, 1980

	<u>Robbery</u> (per 100,000)	<u>Armed Robbery</u> (per 100,000)	<u>Homicide</u>	<u>Violent Crimes</u> (% of Total)
Canada	102.7	55.8	2.5	(2.7*)
United States	243.5	151.5	10.3	(7.9*)
Canada as percent of US	42.2	36.8	24.3	(34.2*)
				6 (7**)
				20
				30.0

\* 1984

\*\* 1986

Source: Canadian Banker, Toronto Star.

#### 7.4 Suicide

The frequency of suicides is an expression of the state of the social environment. In 1980 Canada had rates of 25 and eight per 100,000 population, for males and females respectively. Among other OECD countries, the rate for males was as low as eight in Spain, and as high as 48 and 49 in Denmark and Finland, respectively. For females, the range was narrower, between three and 26 in Ireland and Denmark. In the US, the suicide rates were 19 for males and six for females.

#### 7.5 Housing

##### 7.5.1 General Conditions

Canada has a population density of about 2.8 persons per square kilometer (7.3 per square mile), one of the lowest in the world. Canadians have always preferred to live in dwellings which afford a high degree of privacy. This is reflected in comparative housing statistics. Among OECD countries, Canada has the lowest person-per-room density for principal dwellings at less than 0.5, compared to 0.9 in Ireland and 0.8 in Japan, Austria and Italy. Over 60 percent of Canadians live in dwellings with an occupation density of less than 0.5 persons per room. The US, which comes next, has only 50 percent of its population living under similar conditions. Over 56 percent of Canada's 9.3 million dwellings are single houses. Many contain more than five rooms, and are well-constructed and centrally heated. Almost 100 percent of Canadian households have piped water and amenities such as flush toilets and fixed baths or showers. By comparison, the US is one or two points below. The majority of houses are generally well-maintained and often surrounded by attractive lawns with flower and vegetable gardens, shrubs, and shade trees.

##### 7.5.2 Purchasing and Renting Homes

About 63 percent of Canadian families own their own homes. However, houses have become increasingly expensive and fewer people are purchasing them. The down payment for a first mortgage on a house can be as low as five to 10 percent of the total purchase price, but the costs of mortgages and maintenance have risen as the general costs of living have increased in recent years.

Offsetting these rising costs is the assistance given to prospective homeowners, especially low-income families, through the services of the Canada Mortgage and Housing Corporation, a federal crown agency. Provincial governments and agencies have also developed successful plans to help people purchase their own homes.

Because of the high cost of buying a house, many Canadians rent accommodation, especially in the inner zones of cities. However, as the demand for rental units has increased, so have the costs.

Whether for purchase or rent, homes in metropolitan areas are more expensive than those found in the surrounding countryside or in smaller communities. Most Canadian cities are surrounded by suburban areas where the bulk of new homes can be found and where a high proportion of the residents live. Many houses in these areas were built to accommodate moderate income earners, while others are more exclusive and quite costly. Older houses are usually found in the inner core of towns and cities or in rural areas.

The single-family house is the most popular dwelling in Canada. The majority of these structures are less than 40 years old and are generally in good repair. Houses vary considerably in size, style and construction. Although there is no such thing as a typical home, most houses have central heating, electricity, hot and cold water, and a bathroom. Many houses have basements, garages or carports, and gardens.

Some older larger homes have been converted into apartments. This type of accommodation is usually quite comfortable and the rooms may be more spacious than those found in modern apartment buildings. Converted apartments or duplexes (complete floor of a house with a private entrance), are often located in the more established residential sections of cities and towns.

### 7.5.3 Apartment Accommodations

Specially constructed apartment buildings vary in both size and quality, and rents vary accordingly. Most apartments are equipped with stoves and refrigerators, and many have laundry, parking, and other facilities. Some buildings offer bachelor apartments, which are small self-contained units, usually suitable for single people or childless couples. Some apartments are furnished, but most are rented or leased unfurnished. Furnished apartments are usually quite expensive.

### 7.5.4 Condominiums

Condominiums may be in row houses or in highrise apartment buildings. The individual units are purchased rather than rented. Condominium owners contribute to the collective costs of maintaining and servicing their complex as a whole and they elect their own representatives to direct and manage the complex.



7.5.5 Heating

Because of central heating and insulation, Canadian homes and apartments are generally comfortable. Insulation in the floors, walls and roofs of buildings retains heat in the cold winter months and keeps out excess heat in the summer. The cost of heating varies considerably according to the type of fuel used, the size of the house, and its insulation. Varying winter conditions in different regions also affect heating costs, which can be a major household expense.

TABLE 6  
TYPES OF HOUSING OCCUPIED BY CANADIANS

	<u>Single detached house</u>		<u>Single attached house</u>		<u>Apartment or flat</u>		<u>Mobile home</u>		<u>Total dwellings</u>	
Percent of people living in dwellings	56.1		8.7		32.8		2.4		100	
	<u>Own</u>	<u>Rent</u>	<u>Own</u>	<u>Rent</u>	<u>Own</u>	<u>Rent</u>	<u>Own</u>	<u>Rent</u>	<u>Own</u>	<u>Rent</u>
	91.0	8.9	53.9	46.1	14.3	85.7	87.7	12.3	62.6	37.4

Source: Statistics Canada, Household Facilities and Equipment, May 1986.

7.6 Leisure

The Canadian climate provides the opportunity for both winter and summer sports and activities. Abundant resources allow for such diverse pursuits as skating, skiing, camping, boating, swimming, cycling, golf, tennis, mountain climbing, hiking, or any other imaginable adventure.

7.6.1 Sports

Canadians participate and achieve significant results in many international sporting events. During the 1984 Olympic Games, Canada won a record number of medals. Canadians excel in winter sports and in 1984-85 were world champions in ice hockey, curling, speed skating, and figure skating. Not to be forgotten are Canadian achievements in summer sports such as track and field, waterskiing, sailing, diving and swimming, where Canadians hold several world records and championships.

Canadians are also knowledgeable and fervent spectators. World class facilities, such as the Olympic stadium in Montreal, the domed coliseum in Vancouver, the proposed covered stadium in Toronto and numerous arenas and stadia in every major centre in the country, afford Canadians the opportunity of watching the best in the world perform.



7.6.2 Culture and Recreation

Canadians are a cultured and sophisticated people. In most major centres, there are professional and amateur theatre, dance and musical companies. There are excellent art galleries, museums and zoos. Cities have abundant parks and gardens. Canadian restaurants are renowned, and Canadian chefs successfully compete at the Culinary Olympics, winning several gold medals last year. The diverse ethnic mosaic of the population creates culturally-interesting and rewarding opportunities for both education and entertainment in just about any major Canadian location. Canada is not a cultural "melting pot", as is the US. Canadians are encouraged to preserve and nurture their cultural heritage. The major ethnic groups are shown in Table 7.

TABLE 7  
DISTRIBUTION OF MAJOR ETHNIC GROUPS BY PROVINCE - 1981  
(000)

	<u>Can</u>	<u>Nfld</u>	<u>PEI</u>	<u>NS</u>	<u>NB</u>	<u>Que</u>	<u>Ont</u>	<u>Man</u>	<u>Sask</u>	<u>Alta</u>	<u>BC</u>	<u>Yu</u>	<u>NWT</u>
British	9,674	520	93	609	369	487	4,488	374	366	963	1,385	10	10
French	6,439	15	15	71	251	5,106	653	74	47	112	92	1	2
German	1,142	2	1	33	6	34	373	108	162	233	188	1	1
Italian	748	-	-	3	1	164	487	10	3	27	53	-	-
Ukranian	530	-	-	2	1	15	134	100	77	137	64	1	1
Native peoples	413	3	-	6	5	47	84	60	55	60	65	3	25
Dutch	408	1	1	13	4	8	191	34	17	65	72	-	-
Chinese	289	1	-	2	1	19	119	7	8	37	97	-	-
Scandinavian	283	1	-	2	2	4	40	25	43	79	85	1	1
Polish	254	-	-	2	-	20	123	28	18	37	24	-	-
Portuguese	188	-	-	-	-	27	129	8	1	6	16	-	-
Greek	154	-	-	2	-	49	86	2	1	5	8	-	-

- Less than 500

Source: Statistics Canada (992-911), Census of Canada, 1981.

Table 8 shows the way Canadians divide their leisure time among various available pursuits.

TABLE 8

COMPARISONS OF WEEKLY FREE TIME BY ACTIVITY, CANADA AND OECD (hours)

<u>Activity</u>	<u>Canada</u>	<u>OECD High</u>	<u>OECD Low</u>
Watching TV	13.3	24.0 - Japan	7.2 - Norway
Socializing	10.7	13.2 - Norway	2.9 - Japan
Reading	3.5	5.5 - Netherlands	2.6 - UK
Recreation	2.1	4.6 - Austria	0.3 - France
Culture	0.6	1.5 - UK, Switz.	0.3 - France
Organizational	0.6	2.0 - Japan	0.2 - France

Source: OECD Social Indicators, 1982.

### 7.6.3 Media

Popular activities in Canada also include watching television, listening to radio, reading newspapers, listening to records or tapes and reading magazines. Visits to bookstores, movies, and public libraries are also popular. Canada is well served in both official languages by national television networks (CBC and CTV), several regional networks (e.g. Global in Ontario, TVA in Quebec) and many independent television stations.

Most Canadians, including those in the far north, are reached by television, either by individual antennae, community antennae or satellite relay. In addition, Canadians in mid-to-large sized locations have access to cable television. There are two national radio networks (CBC and CKO, a news network) and hundreds of independent radio stations, operating on AM, FM and shortwave. All large population centres have at least one daily newspaper and most medium and smaller centres have weekly newspapers. Many are in languages other than English and French, serving local, ethnic communities. Canadians also publish nationally-distributed periodicals and trade magazines, some directed at specific strata of the population, occupational, business, or special interest groups.

### 7.6.4 Events

In all parts of Canada, annual events draw large numbers of visitors. Many communities hold a winter carnival, the largest and most famous being the Quebec Winter Carnival in Quebec City. At other times of the year, annual fairs, trade shows, festivals, and exhibitions feature home cooking, handicrafts, horse shows, agricultural and other displays, parades, musical entertainment, and dancing. Many events, such as multicultural festivals, reflect our pioneering heritage and cultural diversity.

### 7.6.5 Vacations

Canadians usually take their annual vacation (typically up to four weeks, depending upon length of service) in the summer months, often spending their holidays in rented or privately-owned cottages in the country, near rivers and lakes. Others take motoring holidays, driving from place to place, enjoying a variety of events and scenic attractions. Many provincial, national and historic parks have camping facilities for those seeking a low-cost vacation. Privately-owned summer resorts provide more luxurious accommodation, full-course meals, and facilities for swimming, boating, fishing, and waterskiing.

### 7.6.6 National and Provincial Parks

Canada's national parks system began with a 26square km (10.0square miles) reservation of land around the mineral hot spring, in what is now Banff National Park. From this nucleus, the system has grown to include 31 national parks that preserve more than 129,500 square km (50,000 square miles) of Canada's natural areas.

Canada's national parks reflect the amazing diversity of the land. The program now extends from Terra Nova National Park on the rugged eastern coast of Newfoundland to Pacific Rim National Park, and from Point Pelee, Canada's most southerly mainland point, to Auyuittuq National Park on Baffin Island.

There is at least one national park in each province and territory. The mountain parks of British Columbia and Alberta, among the oldest in the system, are noted for their wildlife, craggy peaks, alpine lakes and meadows, glaciers and hot springs.

The magnificent scenery and numerous recreational possibilities of the national parks attract visitors year round, whether to camp, sightsee, hike, mountain-climb, swim, fish, ski or snowshoe. Interpretive programs include guided walks, displays, films and brochures that explain the natural history of the park regions.

Provincial parks complement the national park system, preserving locally interesting phenomena not covered by the national parks. These include Dinosaur Provincial Park, outside Drumheller, Alberta, in which prehistoric dinosaur bones may be seen but not excavated, Serpent Mounds, in southern Ontario, where ancient native burial grounds may be viewed, and, Kakabeka Falls, outside Thunder Bay, Ontario, containing a magnificent waterfall higher than Niagara Falls.

8 SCIENCE AND TECHNOLOGY8.1 Canada's Spirit of Technological Innovation

Canadians have always been on the leading edge of scientific and technological innovation. Canada was among the first nations to develop powered flight; today Canadian technology is aboard the space shuttle in the form of the Canadarm, the robot arm used to manipulate equipment in space. Canadians developed insulin, the heart pacemaker, and the cobalt bomb for treating cancer, medical advances which today save millions of lives, and Canadians continue to contribute to advanced research in biotechnology.

Canadian industry requires large amounts of power to function effectively. Canadians were and are still in the vanguard in the development of hydro-electric power generation (witness the James Bay development) but have not let the abundance of natural water resources slow the development of alternate power sources. The Candu nuclear reactor, in wide use in Canada and other parts of the world, has an enviable record of safety and reliable performance. Canadians are presently developing power systems sourced by the sun, the wind and the tides.

In agriculture, Canadians have developed special strains of durum wheat which are renowned for their yield and disease resistance. New agricultural and other food products are continuously being supplied to the world via Canadian research: products such as canola (rapeseed) and new wheat varieties, such as triticale, a hybrid wheat and rye.

Canadians lead the world in cold weather oil production and recovery. The tar sands, straddling the Alberta-Saskatchewan border, contain almost as much oil as the Middle East. Canadians have developed methods of extracting tar sands oil and have already brought a few sites into production.

The telephone was a Canadian invention; today Canadian communications satellites are among the most reliable in orbit. Canada is spanned from coast to coast by microwave networks, and research and production are well under way into the establishment of fiberoptic communication systems, which can move many times more data than conventional wired systems, a requirement of significant impact in these days of high-speed computer-based communications.

8.2 R&D Expenditures

Canadian industry has experienced a significant increase in research and development (R&D) expenditures. From 1979 to 1985, the expenditure level grew at an average annual rate of 15.1 percent. Industry's share of total R&D funding has also increased (from 32 percent in 1971 to 43 percent in 1985). According to the World Economic Forum's (WEF) 1986 survey, Canada ranked third in terms of the growth in R&D personnel in manufacturing industries and 13th in terms of the total R&D personnel in industry.



Canada is 10th in the proportion of GDP spent on scientific research and development. The federal and provincial governments have committed themselves to a close collaboration in formulating scientific and technological policies, with particular emphasis on the fostering of industrial R&D capability to respond to regional and national objectives.

### 8.3 R&D Tax Incentives

The Canadian Government provides support for technological development through a variety of mechanisms, ranging from tax incentives to grants, loans, contracts for goods and services, infrastructure support, and skills training related to high technology industries.

Expenditures of a current and capital nature may be written off in the year in which they are incurred, or may be capitalized and deducted, either in whole or in part, in any future year. A minimum 20 percent tax credit is available for all R&D, with a 35 percent credit applicable to small businesses. For expenditures made after May, 1985, this 35 percent tax credit has been made 100 percent refundable. The June 1987 White Paper on Tax Reform proposes that buildings be excluded from R&D tax credits, unless they are of a specific type required by the R&D conducted (e.g. wind tunnels or hydro energy prototypes).

### 8.4 Federal Government Activity

#### 8.4.1 University Research Support

Federal support of scientific activities in Canadian universities totalled \$525 million in 1985-86. Of this total, the support of direct research and development costs in Canadian universities amounted to \$456 million.

#### 8.4.2 Organizations, Policies and Expenditures

The Ministry of State for Science and Technology, which was created in 1971, encourages the development and use of science and technology in support of national goals through the formulation and development of appropriate policies. Research grants, made through the Natural Sciences and Engineering Research Council, the Medical Research Council of Health and Welfare and the Social Sciences and Humanities Research Council of the Secretary of State, are an expression of a science policy aimed at generating and maintaining national research capability.

Policies are also in place for the use of science to help Canada achieve non-scientific aims using scientific tools. The maintenance of research laboratories by science-based government departments (such as Energy, Mines and Resources, National Health and Welfare, Agriculture and Environment) and the contracting-out policy are expressions of this aspect of science policy.

The integration of science into public policy formulation is a relatively new development. To do this, the Government of Canada is recruiting both natural and social scientists into the federal public service, at the policy-making level, and using consultative mechanisms to incorporate the advice of the natural scientific community.



The Science Council of Canada is a science policy research institute established to advise the federal government and the Canadian public on problems and opportunities in Canadian science and technology. The published results of research in key areas of national science and technology policy are directed throughout Canada to government, industry, academic policy-makers and increasingly, to the public through the mass media. The council consists of up to 30 eminent individuals - mostly industrialists or academics - appointed by order in council who meet four times yearly to plan, evaluate and approve the major outputs from the council's research program, which is carried out by a staff located in Ottawa. To date, publications by the Science Council include 33 policy reports, including recent council positions on the impact of microtechnology on society and Canada's potential scientific and technological contribution to the food supply of developing countries. Background studies now number over 50, including papers on Canadian involvement in both international science and world food aid and on the requirements of Canada's manufacturing sector. A catalogue is available from the council's publications office, located at 100 Metcalfe Street, Ottawa, Ontario, K1P 5M1.

Total federal expenditures in the natural and human sciences were \$4.2 billion in 1984-85, an increase of two percent over the preceding year. Nearly 18 percent of the government's expenditures were relevant to the social sciences and the other 82 percent to the natural sciences. The major spenders were the National Research Council (NRC), with 11 percent of the total, the Natural Sciences and Engineering Research Council (7.1 percent), Energy, Mines and Resources (10 percent), Environment (9 percent), and Agriculture (10 percent).

In 1985-86, about 36 percent of government expenditures went outside of government agencies, with \$705 million going to industry and \$525 million to universities.

The National Research Council (NRC) is an independent research agency established by Parliament to promote scientific and engineering research for Canadian development. Its activities include: basic and exploratory research in the natural sciences; research on long-term problems of national concern such as energy, food, transportation, building and construction; research in direct support of social objectives; the development and management of major national facilities; and research and services related to standards. These activities are carried out through in-house research programs, both internally generated and in response to requests from industry; through contracts with industry and universities; through financial contributions to industry research laboratories; and through a technical information service for Canadian industry. The Canada Institute for Scientific and Technical Information plays a key role in facilitating the use of this information by the government and people of Canada.

One successful milestone in the NRC's space program was the first flight of Canadarm on board the National Aeronautics and Space Administration's (NASA) orbiter Columbia. Canadarm is Canada's \$100 million contribution to the United States' space shuttle program. In return, Canada will receive special consideration on future shuttle payloads. NASA contracted with Spar Aerospace Limited, Canadarm's manufacturer, to produce an additional three manipulator arms, for a total of four.

Most recently, the NRC opened Canada's largest biotechnology research institute in Montreal. The institute, which covers 17,000 square metres, houses Canada's largest pilot plant facility.

## 9 BUSINESS ENVIRONMENT

### 9.1 Co-operation Between Government and Business

Perhaps the greatest advantage of having a business in Canada is the government's commitment to consult and co-operate with both the Canadian and non-Canadian business communities. This type of co-operation ensures the proper infrastructure and environment for Canadian-based companies to compete more effectively against imports and in international markets. Government awareness of certain barriers to enterprise in Canada led to the development of a number of incentive programs. Federal, provincial and municipal programs range from financial loans, grants, and equity participation, to tax and duty remission, to employee relocation and training.

### 9.2 Deregulation

As part of the new co-operative spirit existing between government and business, certain industries have been marked for deregulation. The Transport Minister introduced in the House of Commons a package of deregulation proposals affecting airlines, rail freight, trucking and shipping. Deregulation has already occurred to some extent in the oil and gas industry, passenger air service, telecommunications (consumers are able to purchase telephone equipment from companies other than Bell Canada), and in the trucking industry. A recent federal government discussion paper has opened the door to one-stop financial supermarkets, but only for trust companies, insurance companies and financial conglomerates. It is proposed, however, that chartered banks would not be afforded the same opportunity. Certain crown corporations or components of crown corporations have been privatized over the last three years. A list of these appears in Appendix I.

#### 9.2.1 The Crown Corporations and Privatization

The government's intention to improve the management and performance of crown corporations was emphasized in its November 1984 Economic Statement and in each of the succeeding Budgets. Privatization is one of the methods for achieving these goals.

Only those government corporate holdings which are clearly justified for public policy reasons will be retained. Activities which more properly belong in the private sector will be transferred there.

To ensure that the government proceeds in a sound businesslike fashion, the Ministry of State for Privatization was created as part of the Treasury Board. A list of corporations which are recommended for privatization has been prepared (Appendix I) and plans for the divestiture of each will be prepared.

Privatization has a number of benefits. It reduces the size of government in the economy and makes room for private sector initiatives; it improves market efficiency and the allocation of resources; it improves the firms' efficiency through market discipline and by reducing political and bureaucratic impediments; and it encourages, in certain cases, investment by Canadians through the direct participation in the ownership of major national corporations which they have supported as taxpayers.

Fiscal benefits have often been cited as a primary reason for privatizing crown corporations. Sale proceeds, which could be substantial, will reduce the government's borrowing requirements. This, in turn, will reduce debt service charges that otherwise would apply, causing an indirect decline in the deficit. Privatization will lead to a direct reduction in the budgetary deficit only if the sale proceeds exceed the value of the government's investment as recorded in the Accounts of Canada. While reducing the government deficit is a high priority, in most cases, the direct budgetary impact of divestitures of crown corporations is expected to be modest.

The government continuously scrutinizes the mandate, operations and role of crown corporations to determine whether their continued existence as crown corporations can be justified and, if not, to determine the optimal method for divestiture or reorganization.

### 9.3 Entrepreneurship

Small business is a major part of our economy, responsible for almost 80 percent of net new employment in manufacturing industries during the 1970s. To create a business climate which rewards the entrepreneur for individual initiative and risk-taking, the federal and other governments are examining their role in providing information and financial assistance. Current federal programs which apply specifically to small business - Federal Business Development Bank (providing loan and equity investment), the small business loans programs and the small business bond program - are also being examined to determine their appropriateness, given today's economic climate. New initiatives with respect to special tax incentives for small business at both the federal and provincial level, which would stimulate growth in the private sector, will be studied on an ongoing basis.

### 9.4 Business Immigrant Program

The objective of the business immigration program is to promote, encourage and facilitate the immigration of experienced business persons from abroad, who will make a positive contribution to the country's economic development by applying their risk capital and know-how to Canadian business ventures which create jobs for Canadians.

The business immigration program complements the government's broader strategy relating to foreign investment. The regulations and directives governing this program are designed to stimulate the economy by attracting qualified entrepreneurs whose business acumen and significant financial commitment will have a positive impact on job creation for Canadians.



The Employment and Immigration Commission (CEIC) has a comprehensive program which benefits from close intergovernmental co-operation, aggressive promotional efforts, active recruitment practices, and improved training and counselling techniques. This program structure maximizes the scope of the business immigration program so that Canada can derive the greatest possible benefit in terms of job creation and risk capital.

#### 9.4.1 Business Immigrant Categories

The business program is composed of three main components: entrepreneurs, self-employed persons, and investors. The following are the regulatory definitions for each component.

Entrepreneurs: Entrepreneurs are described as persons who have the intention and ability to establish, purchase, or make a substantial investment in a business venture in Canada, which they will manage on an active basis. The venture must make a significant contribution to the economy and must result in the creation or maintenance of employment opportunities for one or more Canadian citizens or permanent residents, other than the entrepreneur and his or her dependents. This category accommodates experienced business persons whose background is oriented towards the management of small to medium size enterprises.

Self-employed: Self-employed immigrants are described as persons who have the intention and ability to establish a business in Canada that will employ only the applicant. The business must contribute to the economy or the cultural or artistic life of Canada. This category accommodates individuals who, although they may not create or preserve jobs for Canadians, make a significant contribution in economic and artistic terms. Farmers, sports personalities, artists, members of the performing arts, and operators of small outlets qualify under this category.

Investors: Investors are described as persons who have a proven track record in business and have accumulated by their own endeavours, a personal net worth of \$500,000 or more. Investors are required to make an investment of a minimum of \$250,000 for at least three years in a project which has been assessed by the destination province as being of significant benefit to its economy, and which will contribute to the creation or continuation of employment opportunities for Canadian citizens or permanent residents other than the investors and their dependants. Applicants in the investor category have three investment options for their funds. They may choose to invest:

- a) in a business or commercial venture;
- b) in a privately administered investment syndicate, acceptable to the province in which the syndicate will make investments; or
- c) in a government-administered venture capital fund, targeted to business development.

A summary of procedures governing the admission of investors is outlined in Appendix II.

Comprehensive procedures dealing with all three categories of business immigrants are now available.

By expanding the program, the commission has the legal base for accommodating risk ventures which provinces consider important to their regional economic development plans. At the same time, a select group of individuals possessing the substantial capital necessary to expand industries and generate jobs will be attracted. Because this program is limited to those individuals who have been able to establish higher credentials, it should attract a new cadre of highly-qualified individuals who can expand their opportunities in Canada.

#### 9.4.2 Conditional Admission

Effective January 1, 1986, the use of conditional admission (as provided for under Section 15(1) of the Immigration Act) was extended to a term of up to two years for the entrepreneurial component of the business program.

Conditional admission replaces the use of provisional admission, introduced in January 1984, and allows the commission to combine the best features of both procedures. This streamlined approach should result in quick access to Canada for qualified entrepreneurs and give them a period of up to two years to set up a suitable business. It will allow visa officers to issue immigrant visas to qualified entrepreneurs on the basis of a general business proposal, while giving the commission the control necessary to ensure business plans are realized.

Conditional admission for a period of up to three years also applies to investors on an exceptional basis. This method could be useful when the province feels it would be beneficial to have the investor come forward but the three-year, tie-in requirement cannot be firmly established, or the details of the case have not been finalized. The investor's immigrant visa will have the condition that he/she not revoke the required investment of \$250,000 for three years after the date of his/her landing.

#### 9.4.3 Priority Processing

In recognition of their economic contribution and creation of employment opportunities, all three streams of business immigrants are given priority in immigrant processing, second only to family class members and refugees. Applications will be processed as expeditiously as possible.



#### 9.4.4 Promotional Efforts

Business immigration is recognized as an important part of the government's overall strategy to attract new investment to Canada. The expanded business program will benefit from closer intergovernmental co-operation between the Canada Employment and Immigration Commission and such agencies as Investment Canada, the Department of Regional Industrial Expansion, and the Department of External Affairs. All these partners in the business immigrant program will co-operate in designing new informational brochures and other comprehensive promotional devices for use in Canada and overseas.

As part of its mandate, Investment Canada will encourage business investments and provide investment information seminars to facilitate economic growth in Canada, including immigration-related investments in priority countries. A structural link has been developed with Business Development Officers (BDO) abroad who will draw up unified action plans and receive financial support for directly promoting the Business Immigration Program. This co-ordinated approach will help maximize the impact of promotional efforts and ensure a comprehensive mechanism which should allow the CEIC to fully tap the potential which exists abroad.

#### 9.4.5 Improved Counselling Techniques

In 1983, a special program was introduced to improve the quality of service to business immigrants. Certain visa officers at key business-receiving posts abroad have been provided with formal training so that they can more knowledgeably counsel and select business persons. These visa officers are designated as Entrepreneurial Development Officers (EDO). Their primary responsibility is to recruit, counsel and select business immigrants and to liaise with interested provincial governments. The EDO is personally responsible for the professional and expeditious handling of these cases. There are currently 51 EDOs stationed at 41 visa offices.

In addition, commercial officers and investment counsellors abroad will be available to assist both EDOs and business applicants who may require additional advice. This publication is available to EDOs. It should allow them to readily answer many questions likely to be raised by business immigration applications.

In Canada, Regional Entrepreneurial Co-ordinators, located at Regional Headquarters, and Entrepreneurial Development Counsellors, located in principal Canada Immigration Centres, will be available to counsel business immigrants. The Department of Regional Industrial Expansion will continue to counsel business immigration applicants on alternative geographic locations for proposals which have merit but may not be supported by the province of destination. Finally, the Federal Business Development Bank will offer a fully computerized national business/investor introduction service to allow foreign investors to find and invest in the type of business closest to their area of interest. These improved counselling techniques should allow a broad national approach to the business immigration program.

9.4.6 Business Visas for Visitors

Not all investors or business persons wish to immigrate to Canada. For those persons, the commission introduced a Business Visa, effective January 1, 1986. Its intent is to facilitate the admission of business people who wish to enter Canada from time to time to oversee their investments or businesses. The visa are valid for one year and allow business persons multiple entries to Canada.

9.4.7 Results to Date of the Business Immigrant Program

The entrepreneur program has resulted in a significant amount of private capital relocating in Canada, in turn creating jobs. Data describing such activity is shown in Table 9. From 1980 to 1986, between 1,500 and 2,200 visas were issued annually under the program. In the seven years shown, over \$6.0 billion has transferred to Canada, creating almost 45 thousand jobs.

TABLE 9  
BUSINESS IMMIGRANTS

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984<sup>1</sup></u>	<u>1985<sup>1</sup></u>	<u>1986<sup>1</sup></u>
Visas issued	1,558	1,893	2,040	1,982	2,094	2,136	2,189
Est. capital transferred to Canada (\$ million)	360	441	677	843	817	1,200	1,700
Jobs to be created	2,623	3,123	4,220	4,597	8,271	9,715	12,119

<sup>1</sup> The 1984, 1985 and 1986 figures reflect the introduction of the new program on January 1, 1984. For purposes of this table, the data are based on the number of visas issued, as opposed to the actual number of landings, as in previous years. The data reflect the funds declared by each business person, and the job creation intentions of each. In previous years these data were based on the number of jobs which business persons were obliged to create under the regulations then in effect.

Source: Employment and Immigration Canada.

Under the program, business immigrants have come to Canada from 92 different countries. The 10 top sources are shown in Table 10. The largest proportion of entrepreneur immigrants have located in Ontario, followed by Quebec and British Columbia. (See Table 11)

TABLE 10  
BUSINESS IMMIGRANTS - TOP SOURCE COUNTRIES (percent)

	1983	1984	1985	1986
Hong Kong	17.1	45.5	40.3	30.9
West Germany	19.4	10.7	10.3	5.8
United Kingdom	7.8	5.5	4.5	4.0
United States	6.3	5.3	6.8	6.6
France	7.7	5.0	4.5	3.7
Netherlands	1.8	2.5	2.2	-
Taiwan	2.9	2.2	2.2	3.9
Switzerland	2.4	1.4	1.9	-
Lebanon	1.2	1.9	1.9	2.5
Philippines	1.1	1.8	2.2	3.3
South Korea	n/a	n/a	n/a	3.4
Saudi Arabia	n/a	n/a	n/a	2.8

n/a not available

Source: Employment and Immigration Canada.

TABLE 11  
BUSINESS IMMIGRANTS - PROVINCE OF DESTINATION (percent)

	1983	1984	1985	1986
Ontario	38.8	46.9	40.7	37.6
Quebec	22.4	21.8	26.1	29.8
British Columbia	20.0	15.6	20.0	19.3
Alberta	8.2	6.4	3.6	6.4
Manitoba	6.3	5.1	4.2	2.7
New Brunswick	1.4	0.9	1.1	0.4
Nova Scotia	0.9	0.8	0.7	0.9
Saskatchewan	1.1	2.3	3.0	2.2
Prince Edward Island	0.5	0.2	0.3	0.4
Yukon and NWT	0.4	0.1	0.3	0.2
Newfoundland	0.2	0.1	-	-

Source: Employment and Immigration Canada.

APPENDIX I

LIST OF CROWN CORPORATIONS SELECTED FOR PRIVATIZATION

Canada Development Investment Corporation (CDIC)

Head Office: Toronto, Ontario

Mandate: To privatize its holdings while gaining a fair return for Canada, and in the interim, to ensure that its subsidiaries are managed in a sound commercial manner.

Background: CDIC was incorporated in 1982 to hold and manage enterprises and investments assigned to it by the federal government, and to divest those enterprises and investments when commercially feasible. Investments currently owned by CDIC, or assigned to it for management, include: Canadair, Eldorado Nuclear, Teleglobe, Canada Development Corporation and Massey-Ferguson. CDIC also briefly had responsibility for the government's interest in several east coast fishery companies.

Subsidiary for Sale:

Eldorado Nuclear Limited, Ottawa, Ontario

Activity: Eldorado is engaged in the mining, refining and conversion of uranium for sale as fuel for generating electricity in nuclear power reactors in Canada and abroad.

Wholly-owned  
Subsidiaries: Gulf Minerals Canada Limited  
Uranery Canada Limited

Assets: \$915.2 million (December 1983)

Sales: \$154.0 million (December 1983)



RECENT PRIVATIZATIONS

Nordair Inc. sold in October 1984 to Innocan Inc. for \$36 million.

Northern Transportation (with wholly-owned subsidiaries Grimshaw Trucking and Distributing Ltd. and Nortran Offshore Ltd.) sold in July 1985 to two native peoples' corporations, Nanusi Corporation and Inuvialuit Development Corporation, for \$27 million.

Canada Development Investment Corporation (CDIC) sold 23 million shares of the 30.7 million shares of the Canada Development Corporation (CDC), which it manages on behalf of the federal government. The 23 million shares were offered to the public in August 1985 and were sold on the basis that half the purchase price was to be paid immediately and the remaining half was due in September 1986. The remaining 7.7 million shares of CDC are being held by the federal government for technical reasons, but will be sold in the future.

de Havilland Aircraft of Canada Ltd., sold in January 1986 to the Boeing Company for \$155 million, of which \$65 million was forgivable on purchases of \$325 million from Canadian suppliers.

Pecheries Canada Inc. sold in April 1986 to the Purdel Agricultural Co-operative for \$5 million.

CN Route, a subsidiary of CN Rail, sold in April 1986 to Route Canada Holdings Inc. for \$23 million.

Canadian Arsenal Ltd., sold in May 1986 to the SNC Group Inc., for \$92 million.

Canadair Ltd. sold in October 1986 to Bombardier Inc. for \$120 million and \$173 million in royalties.

Nanisivik Mines Ltd. had an 18 percent government equity sold in October 1986 to Mineral Resources International Ltd. for \$6 million.

Teleglobe Canada sold in February 1987 to Memotech Data Inc. for \$602 million.

APPENDIX II

IMMIGRATION PROCEDURES FOR INVESTORS

The following text is intended only as a summary of procedures to be used in the admission of investors.

1 Regulatory Definition

Investor means an immigrant who:

- a) has operated, controlled or directed a financially successful business or commercial undertaking; and
- b) has, by his/her own endeavours, accumulated a net worth of at least \$500,000.

Based on this definition and the selection criteria outlined in Regulation 8(1)(c) (all factors of Schedule I except items 4 and 5), the investor will be assessed in accordance with the following:

Since applying for a visa, he/she has made an irrevocable investment of at least \$250,000, for at least three years, which will contribute to the creation or continuation of employment opportunities for Canadian citizens or permanent residents other than the investor and his/her dependants:

- i) in a business or commercial venture to establish, purchase, expand or maintain the business or commercial venture or a part thereof which will be of significant economic benefit to the province in which it is located;
- ii) in a privately administered investment syndicate acceptable to the province, in which the syndicate will make investments, the main purpose of which syndicate is to provide equity or loan capital to establish, purchase, expand or maintain business or commercial ventures which will be of significant economic benefit to the province in which the syndicate makes the investments; or
- iii) in a government-administered venture capital fund, the main purpose of which is to provide equity or loan capital to establish, purchase, expand or maintain business or commercial ventures.

2 Intent of the Definition

To give the Commission the legal basis to accommodate those risk ventures identified by the provinces or the federal government as being important to economic development plans, while attracting a select group of qualified individuals who have a more substantial capital base to expand the industries and generate the jobs which Canada needs.

### 3 Conditions for Issuance of Visa

All investments must be confirmed in writing before an immigrant visa is issued to an investor. The investment must meet the following conditions:

- 1) \$250,000 minimum;
- 2) irrevocable for at least three years;
- 3) acceptable to the province of destination;
- 4) contribute to employment opportunities for Canadian residents.

Regulation 9(3) states that any investment may have a condition that it is refunded if the investor is not granted an immigrant visa. This is the only condition that does not negate the irrevocable aspect of an investment commitment. Any other provision for a refund would render it revocable. Consequently, the investment would not meet Canada Employment and Immigration (CEIC) requirements.

### 4 Processing of Applications

#### a) Documentation required

Applications for permanent residence should be submitted to a visa office, usually in the applicant's country of residence, and be accompanied by:

- (i) a curriculum vitae and a description of the applicant's business, industrial or managerial experience;
- (ii) a statement of resources, showing funds (\$ Canadian) already in Canada, funds available for immediate and later transfer and proof of ownership;
- (iii) a written indication of the business, venture, investment syndicate or fund he/she wishes to invest in, including the province of destination;
- (iv) for those investing in a private business or commercial venture, an indication of the jobs which will be created or maintained for Canadian residents.

Upon receipt of this documentation, the Entrepreneurial Development Officer (EDO) will be in a position to review the application in detail and provide further counselling, as required.

#### b) Early Refusals

The program demands that the investor have a proven business background. The EDO should therefore concentrate on the client's proven abilities and business reputation. If the applicant's business experience is weak, the application should be refused without further referral. If the applicant presents an investment proposal not previously reviewed by provincial authorities and one which is not well thought out, weak, and unlikely to be approved, the EDO may refuse the application without further referral.

## c) Decision on Admission

Projects recommended by the province will normally be approved unless regulatory requirements are not met or the EDO is of the opinion that the applicant does not have the mandatory business experience. If the selection decision is positive, once the background, health, and all other statutory and regulatory immigration requirements have been met, an immigrant visa should be issued. A copy of the Immigration form IMM 1000, including final destination address in Canada, and the estimated date of arrival, if known, should be sent to the appropriate regional/provincial officials.

Investors will be processed according to the method of investment chosen.

## d) Method of Investment

- i) Private Business or Commercial Venture
- ii) Privately Administered Investment Syndicate
- iii) Government-Administered Venture Capital Fund
- iv) Private Business or Commercial Venture

## A) Single Applicant:

- In cases where the applicant appears to meet the requirements and the investment proposal has merit, arrangements will be made for referral of the investment proposal to the applicable province (using the same guidelines and procedures applicable to entrepreneurs). A copy should be provided to the Regional Entrepreneurial Coordinator. Provincial support is required for all investment in private businesses or commercial ventures.
- At this point, routine medical/security screening should be initiated, with the concurrence of the applicant, as in the entrepreneur component.
- The province should reply within a maximum of 30 days. The correspondence should clearly reflect whether the investment proposal meets provincial requirements.
- In addition to satisfying the requirements of the Act and Regulations, the investor must satisfy the EDO that the investment of \$250,000 is tied in for a minimum period of three years before the visa is issued. This would usually take the form of a legally binding contractual agreement between the Canadian investee and the foreign investor.

## B) Multiple Applicants

- Some Canadian business ventures will be seeking to recruit a number of foreign investors to provide the project with the necessary capital base.
- These business ventures must receive provincial approval before recruitment activities can start. The project description must include the minimum number of applicants required in order to allow it to begin and proceed to completion. The project should also include the names of those countries where the recruitment activities are likely to take place so visa offices abroad can coordinate their activities.



- Because recruitment activities can be difficult and complex, it is not anticipated that these projects will be numerous, or that they will involve large numbers of applicants. However, in cases which are allowed to proceed, it is imperative to ensure proper coordination and cross reference between visa offices and regional headquarters involved. Regional headquarters will assume a liaison role between all parties. The province will refer a project which they support to regional headquarters. The regional headquarters will liaise with all visa offices involved and will advise the Chief, Monitoring Analysis Division, Operations Branch, NHQ.
- Applicants can be processed as they are identified, but actual issuance of the visa will be withheld until such time as all applicants required to raise the necessary capital, have qualified for immigration purposes.
- Once a project has been identified as being acceptable to the province, EDOs will not need to refer individual applicants to the province, but should inform regional headquarters and other visa offices who may be involved in the recruitment activities of any applicant who has qualified.
- Regional offices should advise the Chief, Monitoring Analysis Division, Operations Branch, NHQ, of the final outcome of these cases.

ii) Privately Administered Investment Syndicate

Provincial acceptance of the investment syndicate is required. Regional headquarters should work closely with provinces in this respect. Once a province has indicated its support of a particular syndicate, regional headquarters should immediately inform the Chief, Admissions Procedures, Operations Branch, NHQ, who will ensure that the syndicate is identified to all visa offices and listed in an appropriate appendix of the Immigration Manual. EDOs should check with the appropriate region if a syndicate is not identified in the Manual. Having established that the investment syndicate is supported, the overseas process will be limited to assessment of applicants to ensure that they meet the definition of investor and that all other immigration requirements are satisfied.

In the case of multiple applicants required to start up a syndicate, the procedures outlined in paragraph 4(d)(i)b) will apply.

iii) Government Administered Venture Capital Fund

Government-administered Venture Capital Funds will be identified in the same manner as (ii) above and listed in an appropriate appendix of the Immigration Manual. As with the privately administered investment syndicates, the individual applicants need not be referred to the provinces. Instead, the EDOs must satisfy themselves that the required investment has been made with an approved fund and that the applicant meets all other requirements of the Act and Regulations.

5 Methods of Admission

- a) There are two methods of admission available to EDOs: unconditional landing and conditional landing.

i) Unconditional Landing

An unconditional immigrant visa means that permanent residence will be granted with no terms or conditions as to the investment. This will occur when:

- the EDO is fully satisfied with the investor's qualifications and resources, and the province or federal agency is satisfied as to the economic benefits of the investment;
- the investor has made an irrevocable investment, confirmed in writing, of at least \$250,000 for a period of three years in a business, private syndicate, or government venture fund, which has been accepted by the appropriate level of government and which will contribute to the employment of Canadians;
- the investor has been found admissible under statutory Immigration requirements.

ii) Conditional Landing

Under current regulations, investors must make their investment before they are issued immigrant visas. Regulatory changes are planned for 1987 to allow investors conditional admission to Canada for up to six months, with the possibility of a six-month extension (maximum of one year) to explore investment opportunities. Regulatory changes will also clarify that the three-year tie-in of funds is to commence once the investment funds are available to the business or syndicate.

b) Refusals

Cases in which the province does not recommend acceptance of the investment proposal will be refused on the basis that the investment proposal would not be of significant benefit to the province, as required by the regulatory definition. In the event that a refusal is contemplated because of failure to meet statutory requirements, the province should be informed, through the Regional Entrepreneurial Coordinator. Time should be given for the region to consult with the province so it may provide comments before prospective immigrants are informed of the negative decision.

In cases where the province has indicated that it will not support the investment proposal but the applicant appears qualified, EDOs should be prepared to assist investors in locating other potential opportunities before a final decision is reached. In that respect, the aid of trade or commercial officers should be sought.

6 Entrepreneurial Development Officers Stationed Abroad

Fifty-one visa officers have now received formal training as Business Development Officers. They are currently posted in the following offices throughout the world:

Abidjan	Detroit	Paris
Amman-Damascus	Hong Kong	Port of Spain
Athens	Kingston	Pretoria
Atlanta	Kuwait	San Francisco
Bangkok	Lisbon	San Jose
Berne	London	Santiago
Bogota	Los Angeles	Seattle
Bonn	Manila	Seoul
Bridgetown	Marseille	Singapore
Brussels	Mexico	Stockholm
Buenos Aires	Minneapolis	Sydney
Buffalo	Nairobi	The Hague
Cairo	New Delhi	Vienna
Chicago	New York	







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## THE ECONOMY

### I AN ECONOMIC PROFILE

#### 1.1 Size and Diversity

Canada's economy ranks seventh among western industrialized countries in the value of goods and services produced. In terms of per capita output, Canada and Norway are closely matched and rank behind only the economies of the United States and Switzerland. In 1986 Canada's Gross Domestic Product (GDP) stood at \$505.2 billion.

The Canadian economy is one of the world's most diversified. Canada presently grows, mines, processes, develops, designs, fabricates or manufactures everything from disease-resistant wheat to communications satellites, from strategic ores and metals to advanced aircraft, and from newsprint to nuclear power stations. Agriculture and other primary production play a small but key role in the economy.

Manufacturing makes a much larger contribution. Major manufacturing sectors include transportation equipment, food and beverages, paper and allied products, primary metals, fabricated metals, and chemicals. As in other advanced countries, a gradual shift from a largely goods-based economy to a predominantly service-producing economy has occurred.

Service industries such as finance, real estate, insurance and personal and business services, which now account for some 65 percent of the country's domestic output, complement the important role played by Canada's resource industries and manufacturing concerns.

Canada's manufacturing industry is undergoing profound technological changes. The advent of new technologies in electronics, robotics, computers and communications has brought Canada to the forefront in many areas of technology.

Canada's industries are dedicated to serving world markets. Adaptability and aptitude in technology are shown in increased facilities and incentives in research, development and education, and advances in electronics hardware and software.

Canada is on the leading edge in communications research, especially in the development and application of fibre optics and cellular radio. The Canadarm, the robot arm installed on NASA space shuttles, was also developed here.

Canada is a leader in the field of medical research, with such historic advances to its credit as insulin, and cobalt treatment of cancer.

#### 1.2 The Importance of Trade

In 1986, Canada exported goods and services amounting to approximately 27 percent of all its GDP and imported almost 26 percent of all the goods and services it consumed.

By dollar value, Canada is the western industrialized world's seventh most important trading nation, and the US is our most important trading partner. Other major trading partners include Japan, the UK, the Federal Republic of Germany, France, South Korea, China and the USSR. Canadian businessmen are very active in South America, the Caribbean, Asia, the Pacific Rim nations and Africa.

### 1.3 The Private and Public Sectors

The Canadian economy is based on the free enterprise system. Its business activities are varied, ranging from small owner-operated businesses to large multinational corporations. Often government programs are established to supplement initiatives undertaken by the private sector and are designed to expand and diversify the Canadian economy. Government also provides health care and other social services and supports certain sectors such as communications and transport, though steps towards deregulation are taking place.

### 1.4 Population and Labour Force

The Canadian population stood at some 25.4 million on June 1, 1986. Growth over the last 10 years averaged about 1.1 percent.

The civilian labour force grew at a much faster rate, averaging 2.4 percent per year over the last 10 years, climbing from 10.2 million in 1976 to 12.9 million in 1986. This reflected increased labour force participation where rates increased from 61.1 percent in 1976 to 65.7 percent in 1986, mainly due to an increase from 41.1 percent to 52.4 percent for women aged 25 and over. In fact, the rate of male participation declined over the period from 81.1 percent to 78.2 percent, as males opted to remain in school longer and began to take on new societal roles.

Over most of the 1960s and 1970s, Canada had the fastest growing labour force in the western industrialized countries which comprise the Organization for Economic Cooperation and Development (OECD).

The number of employed Canadians increased from an average of 9.3 million in 1975 to 11 million in 1981. Employment declined to 10.6 million in 1982, and, recovering from the recession, grew to 11.6 million in 1986. Paid workers composed almost 89 percent of the total.

Overall annual employment growth averaged 2.1 percent over the 1976-86 period, only slightly below the exceptional expansion of the labour force. As a result, the number of unemployed grew from an average of 726 thousand in 1976, to 1.45 million in 1983, before declining to 1.24 million in 1986.

A regional comparison of the labour force is shown in Table 1.

TABLE I  
REGIONAL LABOUR FORCE, EMPLOYMENT AND UNEMPLOYMENT

	<u>Labour Force</u>				<u>Employment</u>					
	<u>Numbers</u> (000)		<u>Average Annual Growth</u> (%)		<u>Numbers</u> (000)		<u>Annual Growth</u> (%)		<u>Unemployment Rate</u> (%)	
	1976	1986	1976-86	1985-86	1976	1986	1976-86	1985-86	1976	1986
Atlantic	803	996	2.2	1.8	717	844	1.6	2.7	10.7	15.3
Quebec	2,689	3,221	1.8	1.3	2,456	2,866	1.6	2.7	8.7	11.0
Ontario	3,882	4,987	2.4	2.3	3,643	4,555	2.3	3.5	6.2	7.0
Prairies	1,712	2,299	3.0	1.6	1,641	2,096	2.5	2.0	4.1	8.8
BC	1,117	1,457	2.7	1.8	1,021	1,274	2.2	3.8	8.6	12.6
Canada	10,203	12,870	2.4	1.8	9,477	11,634	2.1	2.9	7.1	9.6

Source: Bank of Canada Review; Statistics Canada.

### 1.5 Job Creation

From 1970 to 1985, annual employment growth averaged 2.4 percent, the highest in the OECD, and 16 percent above the US, in second place. During this interval 3.4 million net new jobs were created.

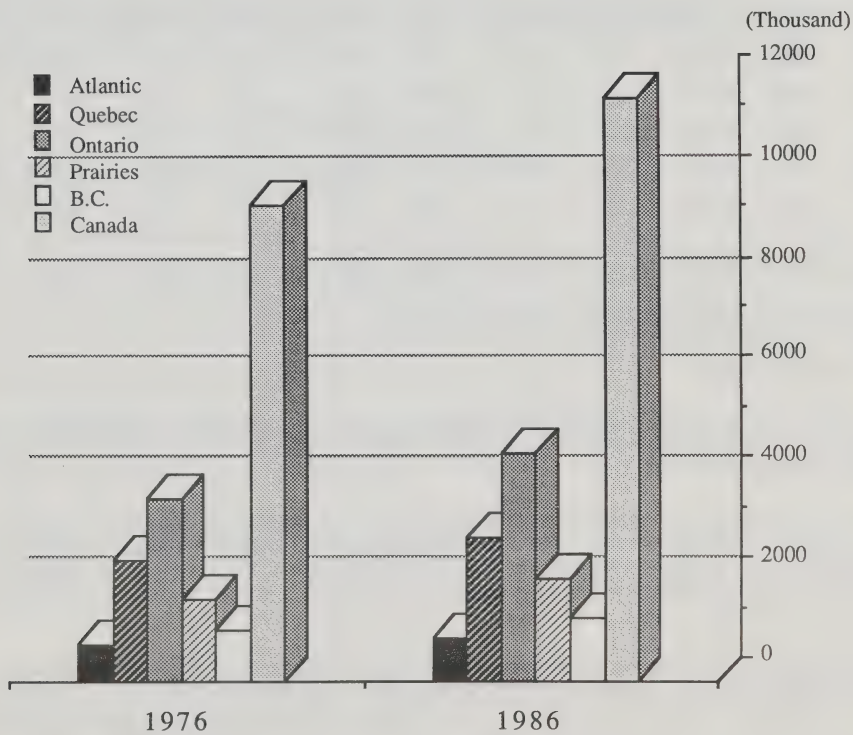
At the end of 1986, the absolute number of employed persons in Canada was at an alltime high of 11,634,000, with some 990,000 jobs created between the recession year of 1982 and 1986. During 1986 alone, some 323,000 jobs were created. Forecasters predict that Canadian employment will grow by about two percent annually through to the end of the decade.

In regional terms, the fastest employment growth in 1986 was in British Columbia at 3.8 percent, followed by Ontario at 3.5 percent, the Atlantic provinces at 2.7 percent, Quebec at 2.2 percent and the prairies at 2.0 percent. Overall, Canada experienced a 2.9 percent increase in employment (See Table I). In 1986, all regions except the prairies were above their average performance over the last 10 years.

Over the last 10 years, however, labour force growth in all regions was higher than employment growth. As a result, the level of unemployment rose in all regions. While the rate of regional unemployment ranged between 4.1 percent and 10.7 percent in 1976, it rose to between 7.0 percent and 15.3 percent in 1986. In both instances, either Ontario or the Prairies recorded the lowest rate of unemployment while the Atlantic region was consistently the highest.



## REGIONAL EMPLOYMENT: 1976-1986



Source: Bank of Canada Review; Statistics Canada.

## 2 ECONOMIC PERFORMANCE & STRUCTURE

### 2.1 Growth of GDP

In constant dollar terms, the Canadian economy grew at an average rate of 3.9 percent from 1975 to 1981. Activity declined (3.4percent) with the 1982 recession, but had recovered by the end of 1983.

Somewhat different patterns characterized the domestic and trade components of the economy. At the 1981 peak, Canada's real trade in goods and services was in deficit, but moved into approximate balance during 1982 and 1983. Domestic demand remained below 1981 levels as the investment component weakened and government current spending remained static. This situation continued in 1984, while consumer expenditures continued their post-recession improvement, bringing overall domestic demand back to 1981 levels by the end of the year.

A strong trade surplus brought total economic growth in 1984 to 5.5 percent compared to an annual gain of 3.1 percent in 1983. Real growth, in 1985 approaching 4.0percent, was centered on domestic demand and residential construction, with less emphasis on trade. Consumption outlays continued to contribute strongly to the domestic component as it had done previously, except that a long-delayed improvement in business investment began, providing more balanced growth. Real investment by the private and public sectors comprised about 20 percent of economic activity in 1985.

The economy grew in real terms at a slower pace in 1986 (3.1 percent), brought on principally by a decline in non-residential business construction and slower growth in personal spending and exports<sup>1</sup>. Residential building was up considerably, however, as falling interest rates encouraged home purchases. Imports grew at a rate above that of exports, causing a sharp decline in the merchandise trade balance. Overall, consumption remained strong and investment remained weak. Real investment declined as a proportion of GDP to its lowest level since 1981.

### 2.2 Balance of Payments and Exchange Rates

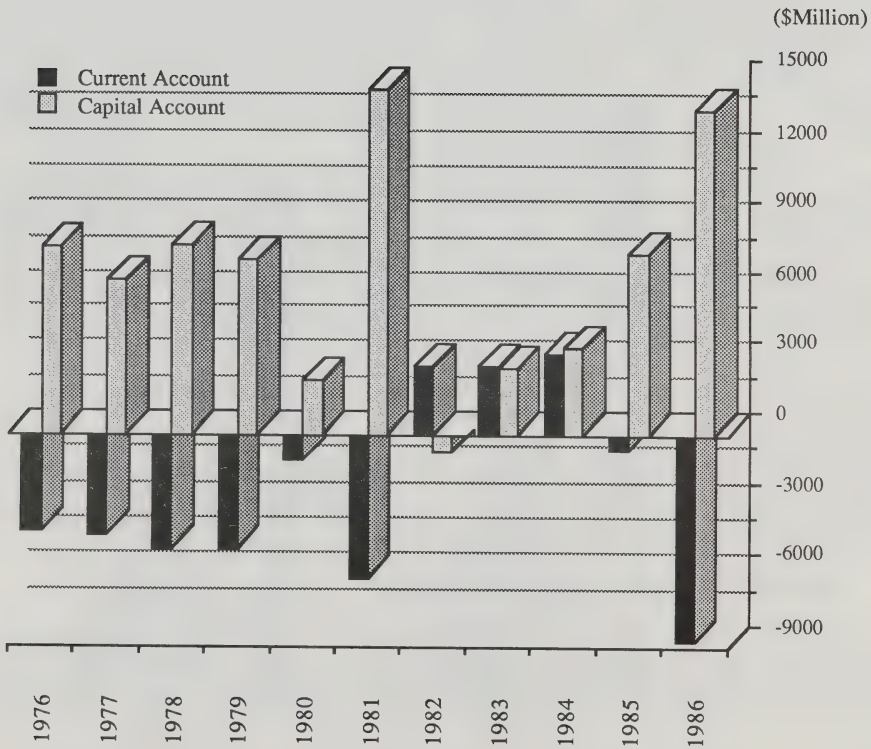
The balance of payments is made up of two parts: the current (or merchandise) account, which measures the value of trade in goods, services, investment income and transfers; and the capital account, which measures trade in funds (i.e. direct investment, bonds, stocks, and payments into and out of Canada) (see Table 2).

Historically, the current account has shown a surplus in merchandise and a deficit in non-merchandise. The current account showed a net deficit from 1975 to 1981, but in 1982, the surplus in goods was larger than the deficit in services. This was repeated in 1983 and 1984, producing a net inflow of funds to Canada on current account. In 1985, a small net deficit on current account was encountered, which grew in 1986 to the largest deficit since the 1950s.

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<sup>1</sup> Excluding investment income received from and paid to non-residents

## BALANCE of PAYMENTS: 1976-1986



Source: Bank of Canada Review; Statistics Canada.

TABLE 2  
BALANCE OF PAYMENTS - 1975 TO 1985 (\$ million)

	1980	1981	1982	1983	1984	1985	1986
<u>Current account:</u>	-1,130	-6,131	2,906	2,942	3,362	-584	-8,805
Merchandise trade	8,778	7,292	17,821	17,647	20,726	17,475	10,132
Services	-3,131	-3,414	-3,798	-4,047	-4,384	-4,298	-3,516
Investment income	-7,826	-11,337	12,557	-11,714	-13,794	-14,598	-16,818
Transfers	1,048	1,328	1,440	1,055	813	836	1,397
<u>By area:</u>							
United States	-7,860	-7,855	-1,756	2,306	6,917	8,637	5,437
United Kingdom	1,614	910	451	-78	-529	-2,092	-2,086
Other EEC	2,017	227	-206	-1,439	-3,555	-5,111	-6,855
Japan	1,152	246	1,156	292	-180	-1,099	-3,448
<u>All other</u>	1,547	341	3,261	1,861	709	-919	-1,813
<u>Capital account</u>	2,306	14,587	-713	2,833	3,597	7,684	13,742

Source: Bank of Canada Review; Statistics Canada.

The \$8.8 billion account deficit in 1986, the largest in the last 25 years (up from \$584 million) reflected a significantly lower balance of merchandise trade, down 42 percent to \$10.1 billion from \$17.5 billion one year earlier. In addition the non-merchandise portion of the current account balance showed an increased deficit, particularly as the outflow of investment income paid to foreigners rose.

The merchandise trade component reflects any number of individual competitive situations. In a general way, it reflects the purchasing power of the US dollar for exports to the US, and the purchasing power of the Canadian dollar, which has also been high relative to currencies of many other countries selling into the Canadian market.

Apart from the US dollar and the yen, other major currencies declined against the Canadian dollar during the 1980s. In 1986, however, there was a general recovery (see Table 3). In the past year the US dollar gained an additional 1.8 percent, while the pound rose by 15.2 percent, the French franc by 31.1 percent, the German mark by 37.4 percent, and the Swiss franc by 38.4 percent while the yen jumped in value by 43.9 percent.

Since the beginning of the decade, Canada's balance of payments record with the US has improved, from deficits of almost \$8 billion in 1980 and 1981 to ongoing surpluses from 1983 to 1986. But with the rest of the world, Canada's position has progressively deteriorated (see Table 2).



Monetary policy has encouraged an inflow of foreign capital into Canada, in the form of both direct and portfolio investment. A large positive balance on the capital account of almost \$14 billion, up 78.8 percent from 1985, reflected a record gross inflow of foreign direct investment of \$6.8 billion in 1986. The positive balance on the capital account has traditionally more than offset the deficit on the current account.

TABLE 3  
EXCHANGE RATES

Year	Canadian dollars per unit of:					
	US dollar	British pound	French franc	German mark	Swiss franc	Japanese yen
1980	1.1690	2.7196	0.2771	0.6444	0.6986	0.005183
1981	1.1990	2.4287	0.2307	0.5318	0.6122	0.005450
1982	1.2341	2.1579	0.1885	0.5086	0.6091	0.004966
1983	1.2324	1.8683	0.1624	0.4834	0.5873	0.005190
1984	1.2948	1.7300	0.1487	0.4564	0.5527	0.005457
1985	1.3652	1.7701	0.1533	0.4677	0.5615	0.005767
1986	1.3894	2.0388	0.2010	0.6425	0.7769	0.008296
Percent change						
1980-86	18.9	-25.0	-27.5	-0.05	11.2	60.1

Source: Bank of Canada Review.

### 2.3 Industrial Growth During the 1980s

Important real increases in sectoral activity have marked Canadian industrial performance in the 1980s. Measures of Real Domestic Product (RDP) at factor cost, or constant dollar value added, of production within Canada, indicate that solid gains have been achieved by manufacturing and services in rebounding from the recession.

In 1986, the primary industries (agriculture, fishing, trapping, forestry, etc., except minerals and fuels), the construction industry, communications and most services outperformed their average rates of growth since the 1982 recession. Minerals and fuels were a notable exception, declining in real output by 4.5 percent compared to an average rate of growth of 3.8 percent over the period. Other sectors grew at a rate slower than the average. Real output at the overall economy level rose by 3.2 percent, compared to an average 3.9 percent over the four years.



# INDEX OF EXCHANGE RATES

CANADIAN DOLLARS PER UNIT OF:

(1980=100)

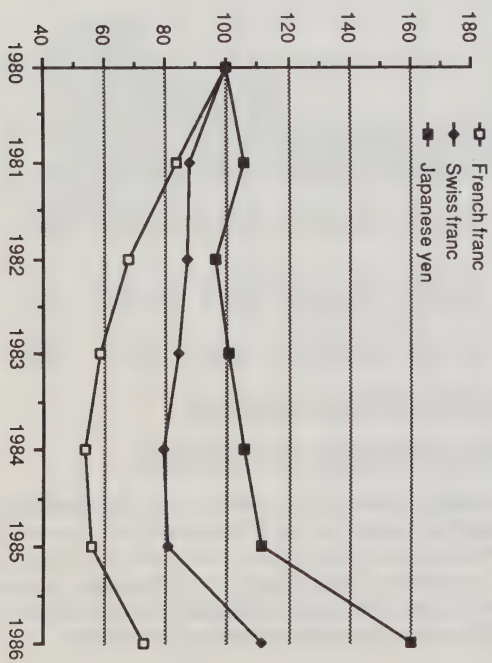
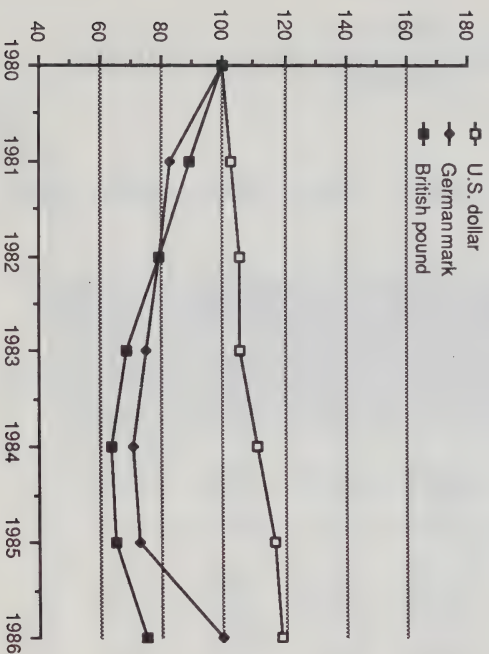


TABLE 4  
GROSS DOMESTIC PRODUCT AT FACTOR COST (\$1981)  
(\$ million)

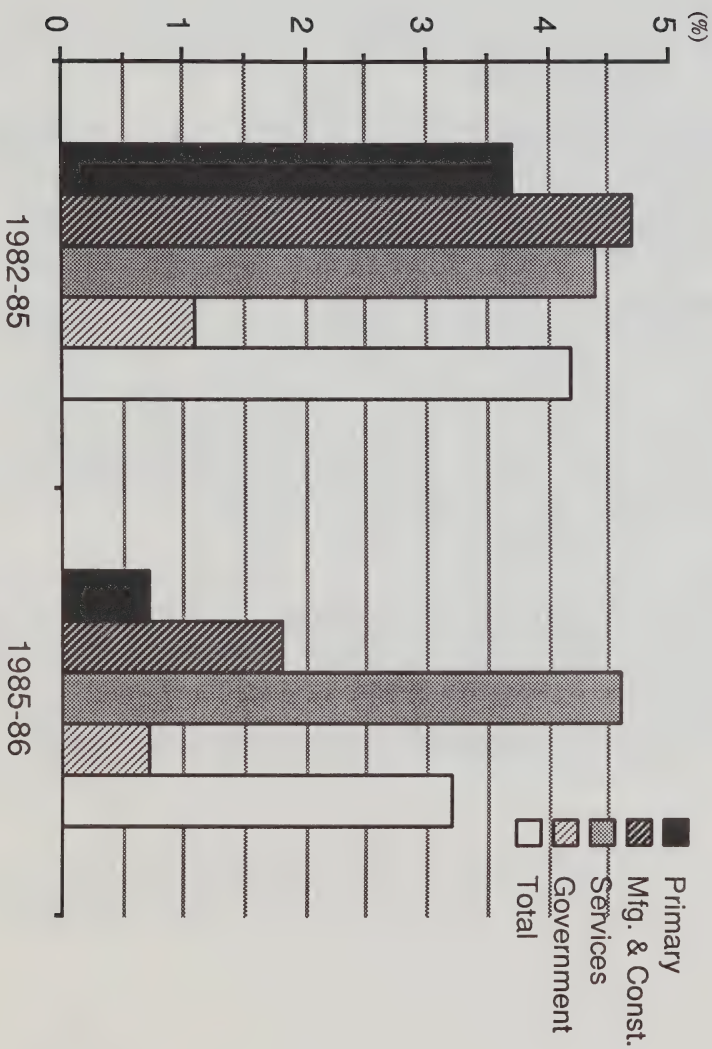
	1981	1982	1983	1984	1985	1986	Average annual change 82-86 85-86 (percent)	
Agriculture	10,611	10,933	10,610	10,181	10,703	11,579	1.6	8.2
Fishing and trapping	565	547	541	469	539	580	2.0	7.6
Logging and forestry	2,308	2,121	2,638	2,367	2,410	2,632	5.7	9.2
Mines, quarries, and Oil wells	17,511	16,526	17,080	19,030	19,958	19,052	3.8	-4.5
Manufacturing	61,709	54,898	58,011	62,262	65,255	66,318	4.8	1.6
Construction	25,094	23,051	23,368	23,043	24,054	24,629	1.7	2.4
Transportation and storage	15,997	14,762	15,549	16,704	17,385	17,749	4.7	2.1
Communications	8,773	8,879	9,039	9,346	9,769	10,392	4.0	6.4
Utilities	9,455	9,487	9,892	10,672	11,291	11,524	5.0	2.1
Trade	35,075	32,451	34,058	36,241	38,719	40,891	6.0	5.6
Finance, insurance, and real estate	44,449	44,995	46,485	49,004	51,751	53,726	4.5	3.8
Community business and personal service	30,207	29,764	29,681	32,374	33,596	35,566	4.6	5.9
Government service	21,715	22,349	22,678	22,933	23,110	23,264	1.0	0.7
Health and social services	36,069	36,758	37,672	38,649	39,171	41,037	2.8	4.8
TOTAL	319,538	307,522	317,202	333,274	347,709	358,938	3.9	3.2

Source: Statistics Canada; Gross Domestic Product by Industry.

### 2.3.1 Detailed Sectoral Information - Manufacturing and Mining

Data to 1986, where available, on 26 major industrial sectors, with comparisons of total manufacturing and mining, are provided in Appendix I in the section on marketing. The data provides comparative information on sectoral shipments, employment, regional concentration, domestic and export markets, investment, profitability, productivity performance, major firms, the degree of non-Canadian ownership in the sector, the role of government, industrial relations and research and development activities.

# REAL DOMESTIC PRODUCT AT FACTOR COST COMPARISON OF GROWTH 1982-85 and 1985-86



Source: Statistics Canada, Gross Domestic Product by Industry.

## 2.4 Capacity Utilization

Capacity utilization is a measure of how much of potential production is actually being employed. Industries do not normally work at 100 percent of their capacity. This would give them no flexibility to meet increases in demand for their products, such as during seasonal peaks. Neither do industries wish to operate too far below their potential, since machinery and employees would be idle. Various technical methods are employed to estimate rates of capacity utilization.

A significant decline in capacity utilization occurred during the 1982 recession. By the fourth quarter of that year, the rate for manufacturing fell as low as 66.3 percent of total capacity, down from 80.4 percent in 1981 and 82.9 percent in 1980. The average of 69.5 percent for 1982 improved somewhat in 1983 (72.0 percent), before moving up to 78.0 percent in 1985. In 1986, capacity utilization declined slightly to 77.7 percent, still below the 1970s and early 1980s at which time it was never lower than 80 percent.

Producers of durable goods felt the recession more severely than did those producing non-durables. Durable goods are those which are purchased to last over a long period - goods such as automobiles, appliances, televisions and furniture. Non-durables, such as food and beverages, shoes, clothing, etc., are less affected by a recession, since decisions to buy cannot be delayed too long because the goods wear out and must be replaced. As interest rates declined after the recession, consumers began to resume purchases of durables, causing unused production capacity to be taken up. But in 1986, as real personal expenditures on durable goods grew by less than half the 1985 rate, capacity utilization in durable goods manufacturing fell slightly.

## 3 PRICES

After three years of double-digit inflation, the annual change in the Consumer Price Index dropped sharply in 1983 to 5.8 percent. From a peak of 12.5 percent in 1981, inflation steadily slowed to 4.0 percent in 1985, before rising marginally to 4.1 percent in 1986. The Industry Product Price Index (IPPI), which measures price change at the production level, showed a similar decline in annual changes one year earlier, coupled with a slowing trend through to 1986, in which the IPPI registered only a 0.8 percent rise.

Raw materials prices, excluding those for fuels, rose significantly in the years 1978 to 1980. Since then, increases have been fairly small or negative. As a result, in 1986 the index was only 3.9 percent above its level of 1981.

TABLE 5  
PRICES<sup>1</sup>

Year	Consumer Price Index	% Change	Industrial Product Price Index	% Change	Raw Materials Price Index (excluding fuels)	% Change
1981	100.0	-	100.0	-	100.0	-
1982	110.8	10.8	106.7	6.7	97.0	-3.0
1983	117.2	5.8	110.4	3.5	98.5	1.6
1984	122.3	4.4	115.4	4.5	103.1	4.7
1985	127.2	4.0	118.6	2.8	100.4	-2.6
1986	132.4	4.1	119.6	0.8	103.9	3.5

<sup>1</sup> 1981 = 100.

Source: Bank of Canada Review.

#### 4 INVESTMENT TRENDS

##### 4.1 Domestic Investment

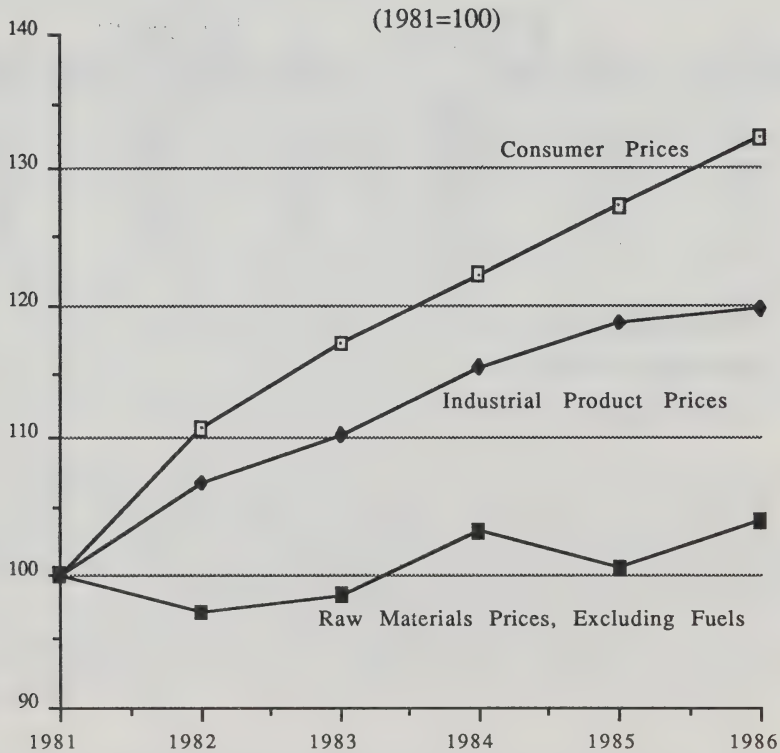
Excluding government departments, domestic investment in new plant, capital goods and housing had risen to \$70.9 billion by 1981. But continued high interest rates and the economic recession of 1982 resulted in a two-year decline which lowered the level of investment to \$65.3 billion in 1983. These trends are shown in Table 6. The beginning of the recovery, as 1983 progressed, and further gains in 1984 halted the decline. By 1987 the level of intended investment had increased to \$99.0 billion.

The manufacturing sector was affected significantly. New capital expenditures on plant and machinery declined from \$12.4 billion in 1981 to \$8.9 billion in 1983, a decrease of 28.2 percent. Renewed demand halted the fall and by 1987 intended investment rose to \$15.1 billion.

The commercial services sector was also affected by the recession. New capital investment declined from \$4.3 billion in 1981 to \$3.9 billion in 1983, a 9.3 percent drop, before rising to \$7.6 billion in 1987.



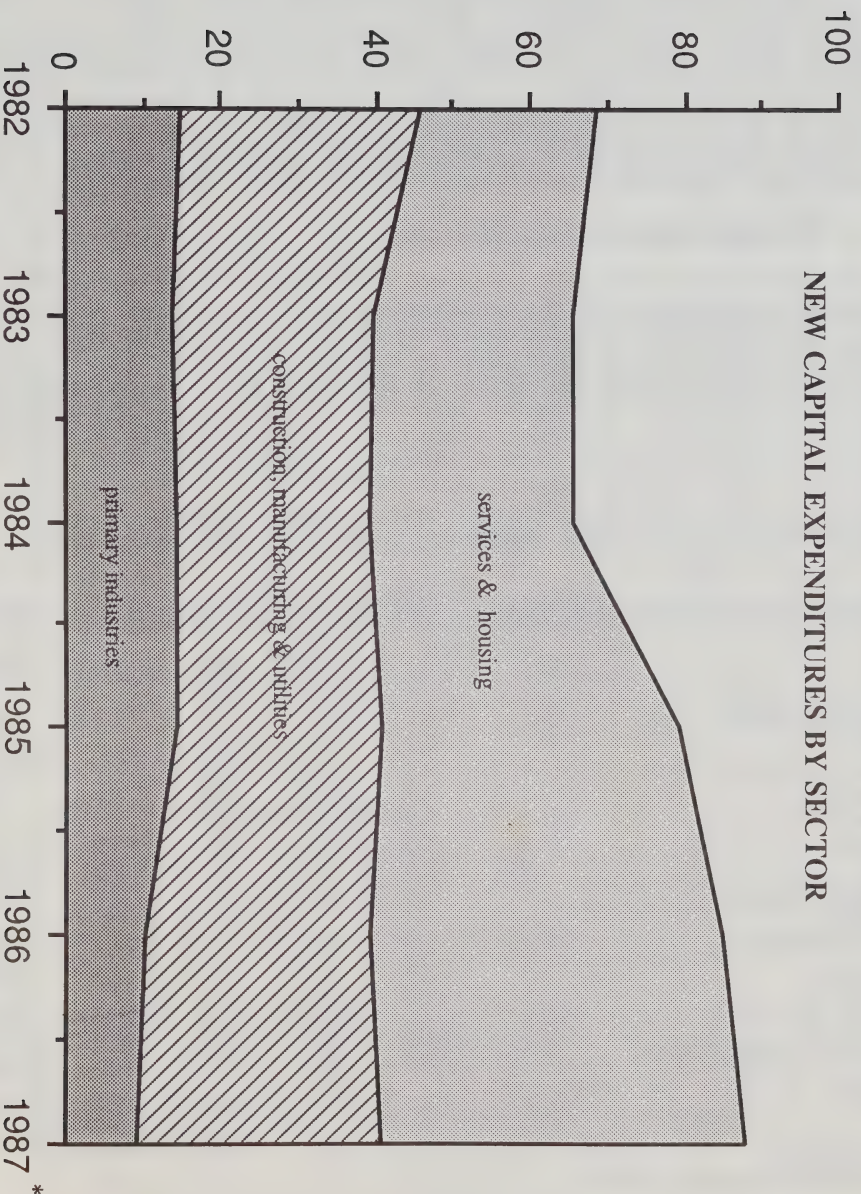
## PRICE INDEXES



Source: Bank of Canada Review; Statistics Canada.

(\$ billion)

# DOMESTIC INVESTMENT IN CANADA NEW CAPITAL EXPENDITURES BY SECTOR



\* intentions at beginning of year.

Source: Statistics Canada; Private and Public Investment in Canada.

Investment in the primary sector (agriculture, fishing, forestry and resources) was relatively unaffected, but continued to be quite flat. Utilities, in response to interest rates and stable demand for power, cut back on new capital investment. As a result, overall new capital investment by mining, secondary (manufacturing and construction) and utility industries declined by 16.1 percent, from \$41.1 billion in 1982 to \$34.5 billion in 1984, before rising to \$37.3 billion in 1985 and remaining at that level for the next two years. In the service industries new capital investment declined from 1981 to 1983 by a total of 4.5 percent, from \$13.3 billion to \$12.7 billion, but grew at an annual average rate of 13.1 percent in each successive year to \$20.8 billion in 1987.

#### 4.2 Investment Intentions for 1987

Statistics Canada's survey of public and private investment indicates that on the whole, four firms plan to increase capital expenditures by almost four percent to \$99.0 billion in 1987. Major growth in capital spending appears destined in particular for forestry among the primary industries, accompanied by increases of 8.7 percent and 9.0 percent respectively in manufacturing and utilities. In the service sector the trade and finance industries have indicated that capital spending will increase by 10.7 percent and 10.3 percent respectively. In housing, where capital spending grew by 20.9 percent in 1986, there is only a 2.2 percent increase indicated. A major decrease of 14.4 percent has been shown for the mining industry, which includes oil and gas. But this survey was conducted in early 1987 and might not have included a number of more recent announcements in the fuels sector which might mitigate the earlier survey results.

TABLE 6  
DOMESTIC INVESTMENT IN CANADA - NEW CAPITAL EXPENDITURES (\$ billion)

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986<sup>1</sup></u>	<u>1987<sup>2</sup></u>
Agriculture, fishing	4.3	4.1	4.2	3.1	2.9	2.7
Forestry	0.1	0.2	0.2	0.2	0.2	0.3
Mining, quarrying, oil wells	10.4	9.6	9.7	10.9	7.2	6.1
Construction	1.3	1.3	1.3	1.2	1.4	1.5
Manufacturing	11.5	8.9	9.1	11.5	13.9	15.1
Utilities	17.9	15.5	14.4	13.7	13.7	14.9
Trade	1.9	2.0	2.4	2.5	2.5	2.7
Finance, insurance, real estate	3.9	3.9	4.0	5.7	6.9	7.6
Commercial services	4.0	3.9	5.0	6.7	7.8	7.9
Institutions	2.9	2.9	2.8	2.5	2.5	2.6
Housing	10.1	13.0	12.5	21.2	25.6	26.2
Sub-total	<u>68.5</u>	<u>65.3</u>	<u>65.5</u>	<u>79.2</u>	<u>84.6</u>	<u>87.6</u>
Government administration	<u>8.3</u>	<u>8.3</u>	<u>9.6</u>	<u>11.4</u>	<u>10.8</u>	<u>11.4</u>
TOTAL	76.8	73.6	75.1	90.6	95.4	99.0

<sup>1</sup> Preliminary

<sup>2</sup> Intentions at start of 1987

Source: Statistics Canada, Private and Public Investment in Canada (61-206)

The Capital Investment Intentions Survey of large firms, conducted by DRIE, bears out the Statistics Canada results. The DRIE survey, conducted during the fourth quarter of 1986, indicates that larger firms might be more optimistic about investing in plant and machinery than smaller ones. They indicated intentions of raising capital spending by 5.3 percent in 1987, led by services at 17.5 percent, with 8.0 percent growth overall for manufacturing. As with the Statistics Canada survey, the oil and gas sector in this survey shows a similar intent to decrease the level of spending in 1987 by 13.6 percent. Within manufacturing, the largest intended increases in capital investment appear to be directed towards food and beverage products (up 27.2 percent), electrical and electronics products and machinery (up 35.6 percent) and in non-metallic mineral manufacturing (up 42.6 percent). Communications industries reported an intent to raise capital spending by 16.0 percent in 1987.

Geographically, the DRIE survey shows intended capital spending down in the Atlantic region by 17.1 percent, up in Quebec by 23.4 percent, up in Ontario, but only by 7.3 percent, up in the prairie region by 1.5 percent, up in British Columbia by 7.9 percent, but down in the Northwest Territories (heavily dependent upon mineral resources) by 68.0 percent.

#### 4.3 Foreign Investment in Canada

Canada, with its relatively small population and huge natural resource endowment, has always required foreign capital to supplement its own means to finance the growth of its economy. In addition, direct investment may bring with it managerial expertise and technology, which may not always be available in sufficient quantity or quality from Canada's own resources. Except for a brief period (1974-85) when Canada used a screening mechanism under the Foreign Investment Review Act to review a small proportion (less than 10 percent) of foreign direct investment, Canada has had an open policy towards foreign investment. With the enactment of the Investment Canada Act, the thrust of the government is to promote, encourage and facilitate new investment, both Canadian and non-Canadian.

##### 4.3.1 Direct and Portfolio Investment

Foreign Direct Investment (FDI) is investment made to expand or acquire some type of permanent interest in an enterprise. FDI implies control, which is exercised by appointing directors and managers of the direct investment enterprise. Often the foreign investor also brings managerial skill, technology, access to sources of capital, and knowledge of foreign markets to the enterprise in which it invests.

Portfolio investment, on the other hand, is purely financial investment. The investor plays no major role in the direction and management of the enterprise, but rather is influenced by such considerations as marketability, income yield, prospects of capital appreciation, tax advantages, exchange rate fluctuations, and safety of principal. Table 7 indicates that both direct and portfolio types of foreign investment have steadily increased in Canada.



At the end of 1985, the book value of foreign direct investment in Canada was \$83.9 billion (see Table 7). Table 8 also shows a geographic distribution by the country of origin of foreign direct investment in Canada. The largest source of foreign direct investment in Canada is the US, followed by the UK, West Germany, the Netherlands and Japan.

TABLE 7  
FOREIGN LONG-TERM INVESTMENT IN CANADA, YEAR-ENDS, 1975-85 (\$ billion)

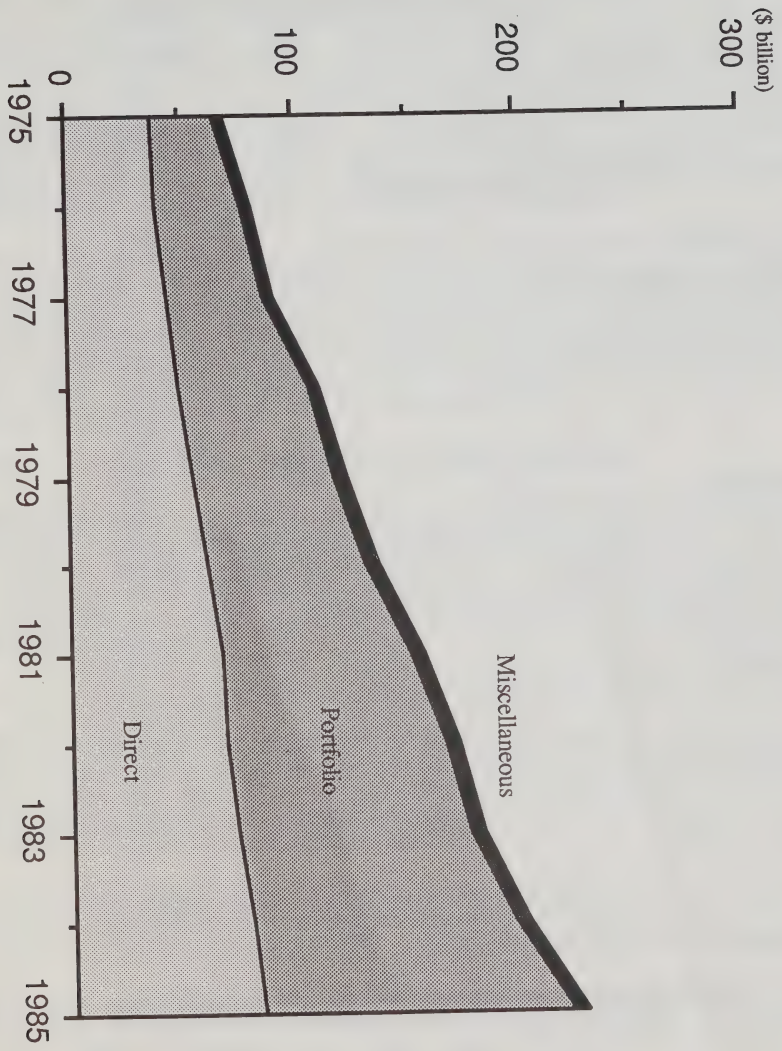
	<u>Direct</u> <sup>1</sup>	<u>Portfolio</u> <sup>2</sup>	<u>Miscellaneous</u> <sup>3</sup>	<u>Total long-term</u>
1975	37.4	28.2	3.7	69.3
1976	40.3	37.7	4.1	82.1
1977	43.7	43.5	4.4	91.6
1978	48.3	57.8	4.6	110.7
1979	54.3	63.7	4.7	122.7
1980	61.6	69.7	5.2	136.5
1981	66.5	83.9	5.7	156.1
1982	68.7	97.8	5.4	171.9
1983	72.6	104.5	5.9	183.0
1984	79.6	116.7	6.4	202.7
1985	83.9	138.6	6.5	229.0

- 1 Foreign direct investment represents the book value, at a specific time, of long-term capital owned by foreign direct investors in incorporated and unincorporated entities in Canada. Through direct investment, an investor gains the potential to influence or to have an effective voice in the management of the enterprise operating outside the investor's own economy. This investment is normally identified by ownership of at least 10 percent of the equity of the enterprise in Canada. Direct investment covers the long-term capital provided by, or accruing to, foreign direct investors, comprising both long-term debts (bonds, debentures, loans, advances, etc.) and equity (common and preferred shares, and retained earnings).
- 2 Portfolio investment is a passive type of investment where the foreign investors are primarily concerned about the safety of their capital, the likelihood of an appreciation in its value, and the return that it is bringing them.
- 3 Miscellaneous investment refers to Canadian securities, mortgages, real estate, and other assets held or administered by trustees, agents, etc. Those assets which cannot be precisely ascribed into one of the two other categories are included in this category.

Source: Statistics Canada, Canada's International Investment Position.



# FOREIGN LONG-TERM INVESTMENT IN CANADA YEAR-END BOOK VALUE



Source: Statistics Canada, Canada's International Investment Position.

TABLE 8  
FOREIGN DIRECT INVESTMENT IN CANADA, YEAR END 1985

<u>Source</u>	<u>Foreign Direct Investment (\$ million)</u>
United States	63,375
Bermuda	897
Bahamas	156
Netherlands Antilles	85
Mexico	8
Other North American countries (including Caribbean)	17
Panama	229
Venezuela	3
Other South American countries	5
United Kingdom	7,777
West Germany	2,444
Netherlands	2,018
France	1,432
Switzerland	1,369
Sweden	384
Belgium and Luxembourg	323
Italy	166
Ireland	27
Austria	23
Denmark	18
Norway	18
Greece	n/a
Other European countries	255
Japan	1,768
Hong Kong	212
Other Asian countries	304
Australia	120
Other Australasian countries	321
TOTAL	83,941

n/a: not available

Source: Statistics Canada, Canada's International Investment Position, 1986.

#### 4.3.2 Performance of Foreign-Controlled Firms

Table 9 provides an overview of the financial characteristics of the foreign-controlled sector. Corporations classified as US-controlled hold a dominant position - approximately three-quarters of the foreign-controlled sector's contribution. Specifically, US-controlled corporations accounted for some 72 percent of the assets, 76 percent of the equity, 77 percent of the sales and 85 percent of the profits of foreign-controlled, non-financial corporations in Canada during 1984. Corporations classified as British-controlled represented less than a 10 percent share (that is, nine percent of assets, nine percent of equity, eight percent of sales and six percent of profits) of the foreign-controlled, non-financial industries.

Table 9 also presents various performance characteristics (sales/assets, profits/sales, profits/assets, and profits/equity ratios) of Canadian- and non-Canadian-controlled corporations in the non-financial industries. These performance ratios indicate that the overall performance of foreign-controlled firms has been consistently better than that of Canadian-controlled businesses. (There are a number of factors that contribute to this. These factors include easier access to a parent company's technology, managerial skills, capital resources, patents and trademarks, etc.)

#### 4.3.3 Foreign Direct Investment in Various Industries

Foreign-controlled companies constitute a significant part (more than 20 percent of assets) of mining, manufacturing and wholesale trade industries in Canada, as outlined in Table 10. In 1984, non-financial companies in Canada had assets of some \$664 billion, of which some \$160 billion (24 percent) were controlled by non-Canadians. Foreign participation was higher in mining and manufacturing industries in which, in 1984, non-Canadians controlled 35 percent and 44 percent of assets respectively.

#### 4.3.4 Capital Movements Related to Foreign Direct Investment (FDI) in Canada

The total stock of FDI from year to year is primarily influenced by net cross-border capital flows and by undistributed earnings of direct investment enterprises. Tables 11 and 12 show the capital flows related to FDI in Canada, for all countries and the US, respectively. Both tables provide a breakdown of the gross capital flows into their two components; gross inflows and outflows.

Gross inflows are divided into (i) inflows resulting from the sale of existing businesses in Canada to non-residents, and (ii) other inflows between foreign direct investors and their direct investment enterprises, such as loans and additional equity.

Similarly, gross outflows are divided into (i) outflows resulting from acquisitions by Canadians of direct investment interests from non-residents, and (ii) other outflows to foreign direct investors from their direct investment enterprises; for example, repayment of loans to parent companies.

Foreign direct investment in Canada produced a net capital inflow of \$1.6 billion in 1986, compared to a net outflow of \$3.0 billion in the previous year. The 1986 gross inflow of \$6.8 billion was the largest in Canada's history.

TABLE 9  
COUNTRY OF CONTROL OF NON-FINANCIAL CORPORATIONS  
MAJOR CHARACTERISTICS, 1984

	<u>US</u>	<u>UK</u>	<u>Other foreign</u>	<u>Total foreign</u>	<u>Canada</u>	<u>Total</u>
Number of Corporations	3,167	507	1,047	4,721	391,029	395,750
<u>Billions of dollars</u>						
Assets	115.2	15.1	30.0	160.4	503.4	663.8
Equity	57.2	6.7	10.9	74.8	161.4	236.3
Sales	169.8	17.8	33.3	220.9	528.8	749.7
Profits	16.9	1.1	1.7	19.8	25.9	45.7
<u>Ratios</u>						
Sales/assets	1.47	1.17	1.13	1.37	1.05	1.09
Profits/sales	0.09	0.06	0.05	0.08	0.04	0.06
Profits/assets	0.14	0.07	0.06	0.12	0.05	0.06
Profits/equity	0.29	0.16	0.16	0.26	0.16	0.19

Source: Statistics Canada, CALURA Report for 1984, Part I.

The low level of net investment in 1983 reflected a continuation of repatriation takeover activities by Canadians of foreign direct investment interests in Canada (see Table 13). In 1984, however, the value of gross outflow of capital due to repatriation to Canadians was at its lowest level since 1977, amounting to some \$463 million, compared to \$1.7 billion in 1983. In 1981, primarily as a result of the National Energy Program, some \$7.6 billion left the country, in large part reflecting the purchase by Canadians of foreign-controlled energy firms resident in Canada.

In 1986, there occurred a record gross inflow of foreign direct investment of almost \$6.8 billion. This was comprised of \$2.7 billion used to acquire existing businesses, and capital injections to investors' direct investment enterprises (i.e. working capital, capital formation, etc.) of \$4.1 billion. Gross outflows amounted to \$5.2 billion, of which \$1.4 billion was due to sales of direct investment interests to Canadians and \$3.8 billion resulted from loan repayments and reductions in foreign equity investments by foreign direct investors.

Geographically, the US was the largest source of gross capital inflows from 1980 to 1985. In 1986, the US share of gross FDI declined to 44 percent of the total.



TABLE 10  
ASSETS OF CANADIAN-CONTROLLED AND<sup>1</sup>  
FOREIGN-CONTROLLED BUSINESS BY MAJOR INDUSTRY SECTOR, 1984 (\$ billion)

Industry Sector	US	Foreign-Controlled		Canadian	Grand Total
		Other	Total		
Agriculture, forestry, fishing	0.2	0.2	0.4	11.8	12.2
Mining	29.7	10.4	40.1	73.9	114.0
Manufacturing	61.5	24.0	85.5	107.7	193.2
Construction	1.1	1.0	2.1	19.5	21.7
Utilities	4.7	1.0	5.6	162.6	168.3
Wholesale trade	7.1	6.8	13.8	49.4	63.2
Retail trade	4.7	0.9	5.6	38.9	44.5
Services	6.3	0.9	7.2	39.5	46.7
TOTAL OF NON-FINANCIAL INDUSTRIES	115.2	45.2	160.4	503.4	663.8

Source: Statistics Canada, CALURA Report for 1984, Part I.

- <sup>1</sup> The Corporations and Labour Unions Returns Act (CALURA) applies only to corporations with gross revenues during a reporting period in excess of \$500,000 or assets in excess of \$250,000. Crown corporations and corporations operating under such Government of Canada statutes as the Canadian and British Insurance Companies Act, the Bank Act, the Loan Companies Act, the Small Loans Act, the Radio Act and the Railway Act are exempt.

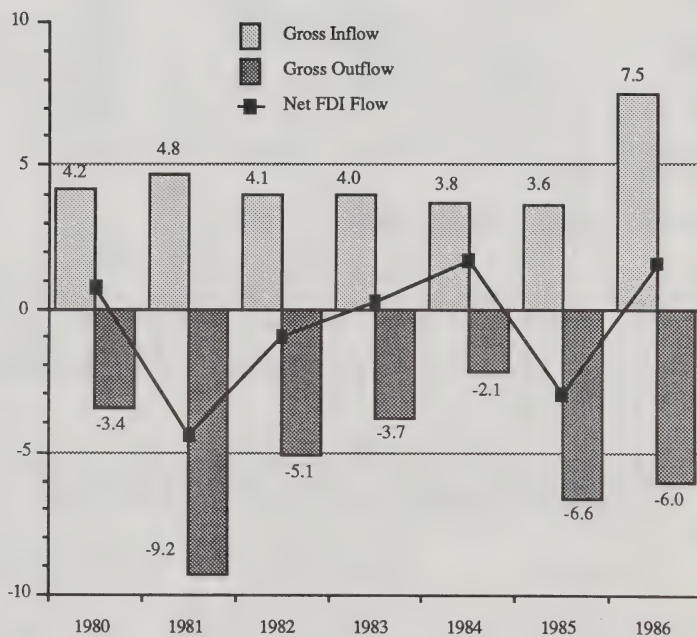
TABLE 11  
CAPITAL MOVEMENTS BETWEEN CANADA AND ALL OTHER  
COUNTRIES RELATED TO FDI IN CANADA (\$ million)

Year	Gross inflows	Gross outflows	Net capital flows for direct investment
1980	4,227	-3,427	800
1981	4,801	-9,201	-4,400
1982	4,090	-5,090	-1,000
1983	3,773	-3,573	200
1984	3,811	-2,113	1,698
1985	3,409	-6,359	-2,950
1986	6,752	-5,195	1,557

Source: Statistics Canada Quarterly Estimates of the Canadian Balance of International Payments; Canada's International Investment Position

## GROSS AND NET FLOWS OF FOREIGN DIRECT INVESTMENT IN CANADA

(\$billion)



Source: Statistics Canada.

TABLE 12  
CAPITAL MOVEMENTS BETWEEN CANADA AND US<sup>1</sup>  
RELATED TO FDI IN CANADA

Year	Gross inflows <sup>2</sup>	Gross outflows <sup>3</sup> (\$ million)	Net capital flows for direct investment
1980	2,979	-2,701	278
1981	3,183	-6,877	-3,694
1982	2,482	-4,520	-2,038
1983	1,875	-2,763	-888
1984	2,345	-1,570	775
1985	2,527	-5,607	-3,080
1986	2,997	-4,363	-1,366

<sup>1</sup> Cross-border capital flows. Does not include investment in Canada of retained earnings by foreign-controlled firms.

<sup>2</sup> Inflow of foreign investment to Canada to expand or acquire an investment in a direct investment enterprise.

<sup>3</sup> Outflow of foreign capital from Canada, as a result of the sale of equity in a direct investment enterprise or the repayment of a loan by a direct investment enterprise.

Source: Statistics Canada, Quarterly Estimates of the Canadian Balance of International Payments, Statistics Canada, Canada's International Investment Position.

TABLE 13  
ANALYSIS OF CAPITAL MOVEMENTS BETWEEN CANADA  
AND ALL OTHER COUNTRIES, RELATED TO FDI IN CANADA

	1980	1981	1982	1983	1984	1985	1986
Gross inflows of capital from foreign direct investors							
To acquire existing businesses	4	66	151	336	226	222	2,670
To their direct investment enterprises	4,223	4,735	3,969	3,437	3,585	3,187	4,082
Total gross inflows	4,227	4,801	4,120	3,773	3,811	3,409	6,752
Gross outflows of capital to foreign direct investors							
From sale of direct investment interests to Canadians	-1,731	-7,588	-3,497	-1,709	-463	-4,601	-1,351
From their direct investment enterprises	-1,696	-1,613	-1,678	-1,864	-1,650	-1,758	-3,844
Total gross outflows	-3,427	-9,201	-5,145	-3,573	-2,113	-6,359	-5,195
NET FLOW	800	-4,400	-1,025	200	-1,698	-2,950	1,557

Source: Statistics Canada, Quarterly Estimates of Canadian Balance of International Payments.

5 PROVINCIAL AND TERRITORIAL ECONOMIC PERFORMANCE

5.1 Newfoundland

Newfoundland's economy is highly dependent on primary resource industries including fishing, mining and forest products. Manufacturing is confined primarily to resource processing (e.g. fish canneries and newsprint manufacturing). Offshore oil developments such as Hibernia have not proceeded as quickly as was first envisioned, for the most part as a result of low oil prices.

The provincial economy grew at a real rate of 1.7 percent in 1986, based on strong performances by the fishing and forest industries. The fishing industry was buoyed by: high demand, especially in North America, for the low-cholesterol product which pushed prices for groundfish up by 10 to 25 percent; good availability of stock, particularly groundfish; and a weakened Canadian dollar vis-a-vis major European currencies. The largest provincial fish company, Fish Products International, posted a profit of \$46.6 million after three years of losses.

The forest industry performed well, mainly due to strengthened demand for newsprint, but the value of mineral production was down by over 12 percent.

The level of investment in the province declined principally as a result of severely reduced activity in the oil and gas sector. By year-end, only one oil rig was active offshore.

New capital investment was down by 0.6 percent, primarily as a result of a decrease in construction in the oil and gas sector. Residential construction was up, however, by 13 percent.

Wages and salaries rose by 3.2 percent in 1986, and average weekly earnings were up 2.9 percent. The latter were 5.2 percent below the Canadian average. Consumer prices in St. John's were up 3.0 percent over 1985.

The average 1986 labour force grew by 2,000, and employment rose by 5,000 resulting in a net reduction of 3,000 in the number of unemployed. The unemployment rate decreased slightly to 20.0 percent, the highest among the ten provinces and some 11.4 points above the national average.



NEWFOUNDLAND<sup>1</sup>

Premier: Brian Peckford (Progressive Conservative)  
 Capital: St. John's  
 Total area: 405,720 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	580.7	580.2
Labour force	(000)	224	226
Employed	(000)	176	181
Unemployed	(000)	48	45
Wages and salaries	(\$ billions)	3.1	3.2
Average weekly earnings, industry	(\$)	396.91	408.44
Farm cash receipts	(\$ billions)	.04	.04
Mineral production	(\$ millions)	870	764
Manufacturing shipments	(\$ billions)	1.4	1.6
Retail sales	(\$ billions)	2.3	2.4
New capital investment	(\$ millions)	1,961	1,949
Value of building permits	(\$ millions)	183.6	207.5
Housing starts	(000)	2.9	2.9
Consumer Price Index (St. John's)	(1981 = 100)	127.8	131.6

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm receipts; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada, Canadian Statistical Review; Statistics Canada, Private and Public Investment; Statistics Canada, Inventories, Shipments and Orders in Manufacturing Industries; Statistics Canada, Farm Cash Receipts

5.2 Prince Edward Island

Prince Edward Island's economy also depends on the primary sector, with agriculture (particularly potatoes) and fishing its mainstays. But the government service sector is now playing an important role in the provincial economy as a result of the relocation of the federal Veteran Affairs Department to the capital, a move which was completed in 1986.

The provincial economy grew by 2.5 percent in real terms in 1986 as a result of strong agricultural and fishing sectors.

During 1986, potato prices recovered, providing almost 18 percent more revenue compared to 1985. Overall, farm cash receipts were up 11.8 percent. As in Newfoundland, the fishery showed strength. In addition to groundfish, shellfish prices have shown an improvement.

Other areas of strength were reflected in a 149 percent increase in new capital investment and a rise in the value of building permits by 22.3 percent, reflecting a strong housing market. The non-residential construction sector is at a peak, however, as government sector construction is for the most part ready to wind down.

While average weekly wages rose by 2.6 percent, they remained 19.2 percent below the Canadian average. Consumer prices in Charlottetown rose by only 2.0 percent.

Both the labour force and the number of employed rose by an average of 1,000 during 1986, resulting in the number of unemployed remaining the same at 8000, or 13.4 percent. This figure was about 40 percent above the national average.

PRINCE EDWARD ISLAND<sup>1</sup>

Premier: Joe Ghiz (Liberal)  
 Capital: Charlottetown  
 Total area: 5,660 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	127.4	128.1
Labour force	(000)	59	60
Employed	(000)	51	52
Unemployed	(000)	8	8
Wages and salaries	(\$ billions)	0.6	0.7
Average weekly earnings, industry	(\$)	339.30	348.10
Farm cash receipts	(\$ billions)	.18	.20
Mineral production	(\$ millions)	2	2
Manufacturing shipments	(\$ billions)	0.3	0.3
Retail sales	(\$ billions)	0.5	0.6
New capital investment	(\$ millions)	269	309
Value of building permits	(\$ millions)	87.4	106.9
Housing starts	(000)	0.8	1.1
Consumer Price Index (Charlottetown and Summerside)	(1981 = 100)	124.5	127.0

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada

5.3 Nova Scotia

The Nova Scotia economy, resource-based as are those of the other Atlantic provinces, experienced a decline in 1986. The province is dependent upon fishing, minerals, forestry and agriculture.

The provincial economy grew by 2.5 percent in real terms in 1986, reflecting the effects of cutbacks in oil and gas exploration and development.

As in the other Atlantic provinces, the fishery sector performed well despite an anti-dumping duty of 26 percent on salt fish and a 6.8 percent countervailing tariff imposed by the US on fresh groundfish. Improvements in demand and increased industry competitiveness combined to give strength to this sector.

The forest industry was affected by the softwood lumber export duty, but recent improvements in plants and costs have left the industry in a good competitive position.

The mining and oil and gas sectors were down as the demand for coal was weak and offshore oil and gas activity was curtailed.

New capital investment rose marginally in 1986, up 1.2 percent, but this was mainly due to a strong residential construction sector. The value of building permits rose by 13.1 percent. However, with manufacturing shipments down and the oil and gas sector cut back, strength was only in the residential construction sector.

Wages and salaries in 1986 were up 5.2 percent and average weekly earnings by 3.7 percent. This latter figure was 9.4 percent below the Canadian average. Farm cash receipts were up marginally and consumer prices in Halifax were up by 3.5 percent.

The labour force grew by an average of 7,000, as did employment. The number of unemployed remained level, at a rate of 13.3 percent, almost 40 percent above the national average.



NOVA SCOTIA<sup>1</sup>

Premier: John Buchanan (Progressive Conservative)  
 Capital: Halifax  
 Total area: 55,490 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	879.8	883.8
Labour force	(000)	391	398
Employed	(000)	337	344
Unemployed	(000)	54	53
Wages and salaries	(\$ billions)	5.8	6.1
Average weekly earnings, industry	(\$)	376.46	390.33
Farm cash receipts	(\$ billions)	.26	.27
Mineral production	(\$ millions)	325	357
Manufacturing shipments	(\$ billions)	4.8	4.7
Retail sales	(\$ billions)	4.6	4.8
New capital investment	(\$ millions)	2,762	2,794
Value of building permits	(\$ millions)	667.8	755.6
Housing starts	(000)	6.9	7.6
Consumer Price Index (Halifax)	(1981 = 100)	127.3	131.7

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada

5.4 New Brunswick

During 1986, New Brunswick's real Gross Provincial Product rose by 3.0 percent, the highest rate of growth among the Atlantic provinces. The provincial economy is dependent upon fishing, forest products, minerals and manufacturing (particularly pulp and paper, shipbuilding, and some new high technology areas).

The fishing industry, which consists mainly of shellfish and herring, was weaker than expected in 1986, mainly due to declines in crab catches. The forest sector was boosted by high levels of residential construction in Canada and the US. While the softwood export tax of 15 percent began to affect the industry as the year progressed, the realignment of the Canadian dollar vis-à-vis European currencies helped the market for pulp and paper and other wood products.

Wages and salaries were up 4.4 percent in 1986; average weekly earnings rose by 3.9 percent. This latter figure was 7.2 percent below the national average. Farm cash receipts did not change. Consumer prices in Saint John increased by 3.4 percent.

The labour force grew by 8,000 and employment by 9,000, resulting in a net decline in the average number of unemployed of 1,000. The unemployment rate, at 14.5 percent, was 51 percent higher than the national average.

NEW BRUNSWICK<sup>1</sup>

Premier: Richard Hatfield (Progressive Conservative)  
 Capital: Fredericton  
 Total area: 73,440 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	719.6	721.1
Labour force	(000)	304	312
Employed	(000)	258	267
Unemployed	(000)	46	45
Wages and salaries	(\$ billions)	4.5	4.7
Average weekly earnings, industry	(\$)	384.92	399.94
Farm cash receipts	(\$ billions)	.22	.22
Mineral production	(\$ millions)	509	526
Manufacturing shipments	(\$ billions)	4.4	4.6
Retail sales	(\$ billions)	3.2	3.5
New capital investment	(\$ millions)	1,966	1,879
Value of building permits	(\$ millions)	372.7	461.1
Housing starts	(000)	4.1	4.0
Consumer Price Index (Saint John)	(1981 = 100)	128.0	132.4

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada

5.5 Quebec

The Quebec economy grew by 3.5 percent in real terms in 1986. During 1986, Quebec underwent a boom in residential construction, with the number of housing starts 25.6 percent above the level of the previous year. The value of building permits in 1986 was 31.6 percent above 1985. The housing boom also affected the demand for furniture and appliances, raising the value of retail sales by 9.1 percent. The furniture and building materials industries hold important positions in the provincial economy.

During 1986, new capital investment rose by 6.6 percent; however, manufacturing shipments rose by only 1.8 percent and mineral production by 1.5 percent. The asbestos sector is particularly weak due to decreases in demand following questions as to the effects of the mineral on health.

Over the year, wages and salaries increased by 5.7 percent and average weekly earnings by 2.6 percent. Average weekly earnings in the province were 2.3 percent below the Canadian average. Farm cash receipts were up by 4.5 percent. The Consumer Price Index in both Montreal and Quebec City was up by 4.9 percent.

The labour force grew by 1.3 percent and, coupled with employment growth of 2.2 percent, caused the number of unemployed to fall by 5.3 percent, to 11.1 percent.



QUEBEC<sup>1</sup>

Premier: Robert Bourassa (Liberal)  
 Capital: Quebec City  
 Total area: 1,540,680 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	6,582.7	6,627.2
Labour Force	(000)	3,181	3,221
Employed	(000)	2,804	2,866
Unemployed	(000)	376	356
Wages and salaries	(\$ billions)	54.0	57.1
Average weekly earnings, industry	(\$)	409.67	420.29
Farm cash receipts	(\$ billions)	3.09	3.23
Mineral production	(\$ millions)	2,243	2,276
Manufacturing shipments	(\$ billions)	59.6	60.7
Retail sales	(\$ billions)	31.8	34.7
New capital investment	(\$ millions)	19,235	20,513
Value of building permits	(\$ millions)	4,474.7	5,886.7
Housing starts	(000)	48.0	60.3
Consumer Price Index (Montreal)	(1981 = 100)	128.1	134.4
(Quebec City)		128.2	134.5

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated

Source: Statistics Canada

5.6 Ontario

The Ontario economy, accounting for almost 40 percent of Canada's GDP in 1986, grew by 4.2 percent in real terms. The manufacturing sector is the economy's driving force, with emphasis on semi-durable and durable goods, including transportation equipment. The level of the Canadian dollar has encouraged expansion in the transportation industry, in particular by American Motors Corporation, Honda Motors and General Motors. At current exchange rates (about US76 cents) it is estimated that Canada has about a US \$7-hour cost advantage in the production of motor vehicles.

As in Quebec, residential construction surged in 1986. Housing starts were up by 20.5 percent and the overall value of building permits was up by 26.5 percent. New capital investment grew by 18.3 percent.

Wages and salaries grew by 7.6 percent in 1986; average weekly earnings were up by 3.9 percent. Ontario's level of average weekly earnings was 1.9 percent above the Canadian average. Consumer prices rose by 4.0 percent in Ottawa, 4.7 percent in Toronto and 3.4 percent in Thunder Bay.

Mineral production was up in value by 3.6 percent and manufacturing shipments by 2.2 percent, while farm cash receipts rose by 7.2 percent. Retail sales grew 9.0 percent in 1986.

The Ontario labour force rose by an average of 110,000 in 1986, while employment grew by 153,000. As a result, the number of unemployed fell by 43,000, and the annual average rate of unemployment declined to 7.0 percent, some 27 percent below the national average.

ONTARIO<sup>1</sup>

Premier: David Peterson (Liberal)  
 Capital: Toronto  
 Total area: 1,068,580 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	9,064.2	9,181.9
Labour force	(000)	4,787	4,897
Employed	(000)	4,402	4,555
Unemployed	(000)	385	342
Wages and Salaries	(\$ billions)	94.8	102.0
Average Weekly Earnings, Industry	(\$)	423.20	439.62
Farm Cash Receipts	(\$ billions)	5.16	5.53
Mineral Production	(\$ millions)	4,630	4,797
Manufacturing Shipments	(\$ billions)	130.0	132.9
Retail Sales	(\$ billions)	49.0	53.4
New Capital Investment	(\$ millions)	31,869	37,716
Value of Building Permits	(\$ millions)	8,392.6	11,359.5
Housing Starts	(000)	64.9	81.5
Consumer Price Index	(1981 = 100)		
(Ottawa)		128.3	133.4
(Toronto)		128.5	134.6
(Thunder Bay)		128.2	132.6

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada

5.7 Manitoba

The Manitoba economy is heavily dependent upon agriculture, although there is a significant manufacturing sector dealing primarily with agricultural machinery, aircraft, transportation equipment, food processing and clothing. The importance of Manitoba's transportation and utilities reflect its hydro electric resources and its position as a rail centre.

The provincial economy grew at a real rate of 4.2 percent in 1986, spurred by an increase in the value of building permits of 16.3percent, which was mirrored by a similar increase in the number of housing starts. New capital investment rose by 11.3percent, mostly in the form of construction, reflecting expenditures on the Limestone hydro electric project and the Winnipeg Core Area Initiative.

Mineral production declined by 12.1 percent; manufacturing shipments rose marginally, as did retail sales. Farm cash receipts grew by 5.5percent.

Wages and salaries rose by 6.9 percent and average weekly earnings grew by 3.7percent. Annual average weekly earnings in Manitoba were 6.7 percent below the Canadian average. Consumer prices rose by 4.5 percent in Winnipeg.

The provincial labour force grew by 10,000 while employment rose by 13,000. The net decline in the number of unemployed lowered the unemployment rate to 7.7percent, about 20 percent under the national average.

MANITOBA<sup>1</sup>

Premier: Howard Pawley (New Democratic Party)  
 Capital: Winnipeg  
 Total area: 649,950 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	1,070.6	1,078.6
Labour force	(000)	523	533
Employed	(000)	480	493
Unemployed	(000)	43	41
Wages and salaries	(\$ billions)	8.7	9.3
Average weekly earnings, industry	(\$)	387.90	402.10
Farm cash receipts	(\$ billions)	2.00	2.11
Mineral production	(\$ millions)	862	758
Manufacturing shipments	(\$ billions)	5.6	5.7
Retail sales	(\$ billions)	5.2	5.4
New capital investment	(\$ millions)	3,195	3,556
Value of building permits	(\$ millions)	696.4	809.8
Housing starts	(000)	6.6	7.7
Consumer Price Index (Winnipeg)	(1981 = 100)	125.3	130.9

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada



5.8      Saskatchewan

The Saskatchewan economy depends on agriculture, principally grain, and other resources including petroleum, potash and uranium. The manufacturing sector, mainly food processing, is small.

The provincial economy grew by 5.3 percent in real terms in 1986, the highest rate of growth in the country, and 71 percent above the overall Canadian growth rate. This was primarily due to a record crop in 1986; however, world grain prices are currently depressed and 1986 farm cash receipts rose only marginally. In addition to falling grain prices, those for petroleum, potash and uranium declined. To compound matters, the US may limit imports of uranium and the US Commerce Department is threatening to impose a countervailing duty on potash imports. The value of mineral production in 1986 fell by 32.2 percent and manufacturing shipment values were stable at \$2.9 billion.

New capital investment declined by 10.0 percent in 1986, primarily due to a 13.8 percent fall in the value of construction but only a 2.4 percent drop in spending on machinery and equipment. Nevertheless the value of building permits rose by 35.2 percent, mainly as a result of an increase in housing starts.

Wages and salaries rose by 4.3 percent in 1986 and average weekly earnings went up by 2.0 percent. This latter figure was 6.7 percent below the national average. Consumer prices increased by 2.1 percent in Regina and 4.1 percent in Saskatoon.

The provincial labour force grew by 4,000 in 1986 and the number of employed rose by 5,000, resulting in a decline in the rate of unemployment to 7.7 percent, some 20 percent below the national average.

SASKATCHEWAN<sup>1</sup>

Premier: Grant Devine (Progressive Conservative)  
 Capital: Regina  
 Total area: 652,330 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	1,017.8	1,021.0
Labour force	(000)	491	495
Employed	(000)	452	457
Unemployed	(000)	40	38
Wages and salaries	(\$ billions)	6.9	7.2
Average weekly earnings, industry	(\$)	394.19	402.14
Farm cash receipts	(\$ billions)	4.10	4.11
Mineral production	(\$ millions)	3,797	2,573
Manufacturing shipments	(\$ billions)	2.9	2.9
Retail sales	(\$ billions)	4.7	5.0
New capital investment	(\$ millions)	4,093	3,682
Value of building permits	(\$ millions)	548.3	741.5
Housing starts	(000)	5.4	5.5
Consumer Price Index (1981 = 100)			
(Regina)		125.6	128.2
(Saskatoon)		124.2	129.3

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada

5.9 Alberta

Oil, gas and agriculture form the basis of the Alberta economy. Its manufacturing sector is an extension of its resources, concentrated in food processing, refining and chemicals (particularly those emanating from petroleum and natural gas).

In 1986, real provincial GDP fell by 1.5 percent, the only province in which there was a decline. This was caused by the decrease in world oil prices, weak grain prices and poor crops brought on by drought and grasshopper infestation. The livestock industry, on the other hand, did well, primarily as a result of low feed prices and lower interest costs.

The value of mineral production, which includes oil and gas, declined by 35.4 percent in 1986 and farm cash receipts fell marginally. Manufacturing shipments declined in value by 4.4 percent.

Capital investment, which is heavily dependent on the mineral fuel sector, fell by 8.2 percent in 1986. The value of building permits rose by 2.4 percent and the number of housing starts was up by the same percentage.

Wages and salaries rose by 0.4 percent in 1986, and average weekly earnings increased by 0.8 percent. Average weekly earnings in Alberta were 4.2 percent above the Canadian average. Consumer prices rose by 3.3 percent in Edmonton and 2.5 percent in Calgary.

The provincial labour force rose by 22,000 and employment increased by 23,000. The number of unemployed declined by 1,000 reducing unemployment rate to 9.8 percent, slightly above the national average.

ALBERTA<sup>1</sup>

Premier: Donald Getty (Progressive Conservative)  
 Capital: Edmonton  
 Total area: 661,190 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	2,358.0	2,389.5
Labour force	(000)	1,249	1,271
Employed	(000)	1,123	1,146
Unemployed	(000)	126	125
Wages and salaries	(\$ billions)	23.4	23.5
Average weekly earnings, industry	(\$)	445.34	448.82
Farm cash receipts	(\$ billions)	3.85	3.84
Mineral production	(\$ millions)	27,030	17,463
Manufacturing shipments	(\$ billions)	16.1	15.4
Retail sales	(\$ billions)	13.5	14.2
New capital investment	(\$ millions)	13,589	12,477
Value of building permits	(\$ millions)	1,798.1	1,840.7
Housing starts	(000)	8.3	8.5
Consumer Price Index (Edmonton)	(1981 = 100)	124.2	128.3
(Calgary)		123.5	127.8

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada

5.10 British Columbia

The British Columbia economy is predominantly resource-based, with mining, forestry and fishing of major importance. The transportation sector is also significant, and the Port of Vancouver is the major marine cargo port in Canada. The manufacturing sector is focused on further processing of resources, but shipbuilding has recently gained in prominence.

Output, measured by real GDP, grew by 3.7 percent in 1986, stimulated by the completion of construction and tourism associated with Expo 86. The value of manufacturing shipments was up by 7.9 percent and farm cash receipts increased marginally; however, mineral production was down in value by 4.9 percent. Retail sales were up by 7.0 percent.

New capital investment declined by 8.2 percent in 1986, with construction down by 10.5 percent and machinery and equipment off 2.8 percent. The value of building permits issued rose by 10.5 percent as the number of housing starts rose by 15.0 percent.

Wages and salaries rose by 1.9 percent and average weekly earnings were up by only 0.5 percent. Nevertheless average provincial weekly earnings were 3.0 percent above the Canadian average. Consumer prices were up by 3.3 percent in Vancouver.

The British Columbia labour force increased 26,000 over the year and employment rose by 46,000. As a result the number of unemployed fell by 20,000 to an average annual rate of unemployment for the province of 12.6, almost one-third higher than the national average.



BRITISH COLUMBIA<sup>1</sup>

Premier: William Vander Zalm (Social Credit)  
 Capital: Victoria  
 Total area: 947,800 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	2,884.7	2,905.9
Labour force	(000)	1,431	1,457
Employed	(000)	1,228	1,274
Unemployed	(000)	203	183
Wages and salaries	(\$ billions)	25.9	26.4
Average weekly earnings, industry	(\$)	441.33	443.86
Farm cash receipts	(\$ billions)	1.01	1.02
Mineral production	(\$ millions)	3,541	3,366
Manufacturing shipments	(\$ billions)	19.1	20.6
Retail sales	(\$ billions)	14.3	15.3
New capital investment	(\$ millions)	10,192	9,356
Value of building permits	(\$ millions)	2,190.4	2,420.3
Housing starts	(000)	18.0	20.7
Consumer Price Index (Vancouver)	(1981 = 100)	125.2	129.3

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada

5.11 Yukon

The Yukon economy is oriented towards mineral resources (mining, oil and gas); some forestry and small-scale agriculture; hydro electric power, and some manufacturing, consisting mainly of mineral refining.

The economy showed strength in 1986. Mineral production tripled in value from 1985 levels with the opening of the Curragh Resource mine (formerly Cyprus Anvil), as gold prices rose above \$US 400, the Mount Skukum mine went into production. The tourist industry benefited from Expo 86 and revenues rose by five percent. The construction industry was also strong, as the value of building permits rose by 85.5 percent over 1985.

Average weekly earnings increased by 3.1 percent, putting them 17.5 percent above the Canadian average. Employment (industrial aggregate) rose by 10.1 percent.

YUKON<sup>1</sup>

Government Leader:	Tony Penikett
Commissioner:	K. McKinnon
Capital:	Whitehorse
Total area:	483,450 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	23.2	22.9
Employed (industrial aggregate)	(000)	7.9	8.7
Average weekly earnings, industry	(\$)	491.37	506.36
Mineral production	(\$ millions)	60	184
Retail sales <sup>2</sup>	(\$ millions)	0.4	0.4
New capital investment <sup>2</sup>	(\$ millions)	1,374	1,133
Value of building permits	(\$ millions)	31.0	57.5

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

<sup>2</sup> Combined with Northwest Territories.

Source: Statistics Canada

5.12 Northwest Territories

The Northwest Territories is rich in raw materials (including gold, gravel, oil and gas). The service industry accounts for a significant proportion of total output. Fishing and fur-trapping account for only a small proportion of GDP, but are important in many small communities. Art (prints, sculpture, tapestries) and other cottage industries are also important on a regional basis.

There was a decline in territorial output in 1986, principally due to falling oil and other mineral prices (except gold). Overall, mineral production fell in value by 8.7 percent.

The value of building permits declined by 46.9 percent in 1986, however 1985 might have been an extraordinary year for construction in the, Northwest Territories.

Aggregate industrial employment fell marginally, while average weekly earnings rose by 1.6 percent. Average weekly earnings in the NWT were 34.8 percent above the 1986 national average.

NORTHWEST TERRITORIES<sup>1</sup>

Government Leader:	Nick Sibbeston
Commissioner:	John H. Parker
Capital:	Yellowknife
Total area:	3,426,320 square kilometres

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	51.0	50.9
Employed (industrial aggregate)	(000)	18.3	18.2
Average weekly earnings, industry	(\$)	571.68	580.77
Mineral production	(\$ millions)	865	790
Retail sales <sup>2</sup>	(\$ millions)	0.4	0.4
New capital investment <sup>2</sup>	(\$ millions)	1,374	1,133
Value of building permits	(\$ millions)	80.8	42.9

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Dollar figures refer to current dollars of the year stated.

<sup>2</sup> Combined with Yukon

Source: Statistics Canada

5.13 CANADA<sup>1</sup>

Prime Minister: Brian Mulroney (Progressive Conservative)  
 Capital: Ottawa  
 Total area: 9,970,610 square kilometers

SELECTED ECONOMIC INDICATORS

		<u>1985</u>	<u>1986</u>
Population on June 1	(000)	25,359.8	25,591.1
Labour force	(000)	12,639	12,870
Employed	(000)	11,311	11,634
Unemployed	(000)	1,328	1,236
Wages and salaries	(\$ billions)	228.6	241.3
Average weekly earnings, industry	(\$)	419.20	430.88
Farm cash receipts	(\$ billions)	19.91	20.58
Mineral production	(\$ millions)	44,734	33,854
Manufacturing shipments	(\$ billions)	244.1	249.5
Retail sales	(\$ billions)	129.4	139.7
New capital investment	(\$ millions)	90,505	95,364
Value of building permits	(\$ millions)	19,523.9	24,690.0
Housing starts	(000)	165.8	199.8
Consumer Price Index	(1981 = 100)	127.2	132.4

<sup>1</sup> Data are for the full year, or are released estimates for the year (farm income; mineral production; capital expenditures). Certain standard series (as housing) do not include the Yukon or Northwest Territories. Separate estimates as available are included in tables for the territories. Dollar figures refer to current dollars of the year stated.

Source: Statistics Canada



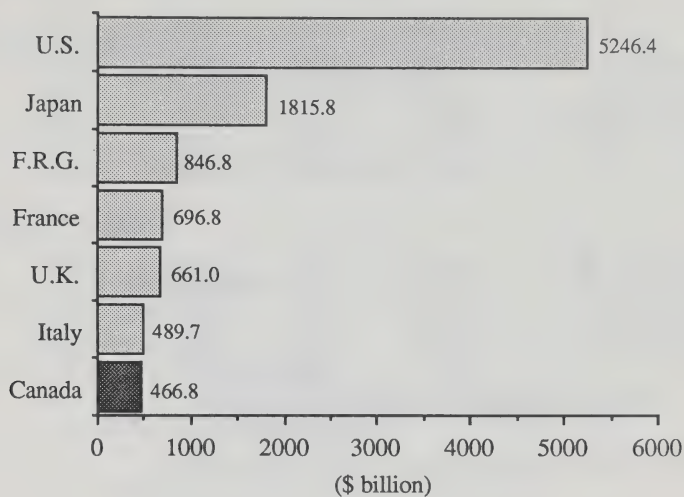




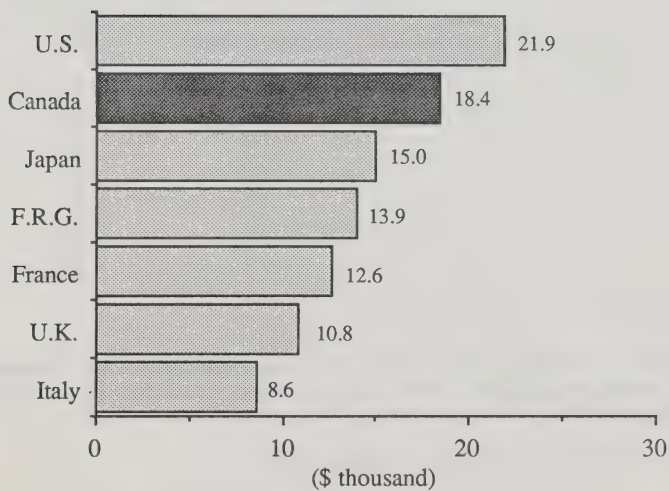
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## GDP BY SELECTED OECD COUNTRY: 1985



## GDP PER CAPITA: SELECTED OECD COUNTRIES: 1985



NOTE: figures for 1985 are based on current prices and exchange rates.

Source: OECD Main Indicators, December 1986.

TABLE 1  
REAL GROSS DOMESTIC PRODUCT PER CAPITA<sup>1</sup> (\$ Cdn)

	1980	1981	1982	1983	1984	1985
CANADA	12,624	13,300	12,939	13,152	13,028	13,491
United States	13,380	14,050	13,893	14,149	14,229	14,409
United Kingdom	11,076	11,217	11,770	12,134	11,620	11,856
West Germany	15,474	15,846	16,163	16,356	16,062	16,491
Japan	10,413	11,051	11,641	11,896	11,918	12,409

(index 1980 = 100)

CANADA	100.00	105.4	102.5	104.2	103.2	106.9
United States	100.00	105.0	103.8	105.7	106.3	107.7
United Kingdom	100.00	101.3	106.3	109.6	104.9	107.0
West Germany	100.00	102.4	104.5	105.7	103.8	106.6
Japan	100.00	106.1	111.8	114.2	114.5	119.2

<sup>1</sup> GDP measured in 1980 prices and exchange rates

Source: OECD, Main Economic Indicators, 1980-86.

TABLE 2  
CANADIAN PRIVATE NON-FARM PRODUCTIVITY TRENDS  
COMPARED TO REAL GDP GROWTH, 1979-86

	Private Non-farm <sup>1</sup> Productivity	GDP
1979	0.4	3.9
1980	-2.2	1.5
1981	1.2	3.7
1982	0.4	-3.3
1983	2.8	3.1
1984	2.3	5.5
1985	0.02	4.0
1986*	-0.1	3.3

\* estimate

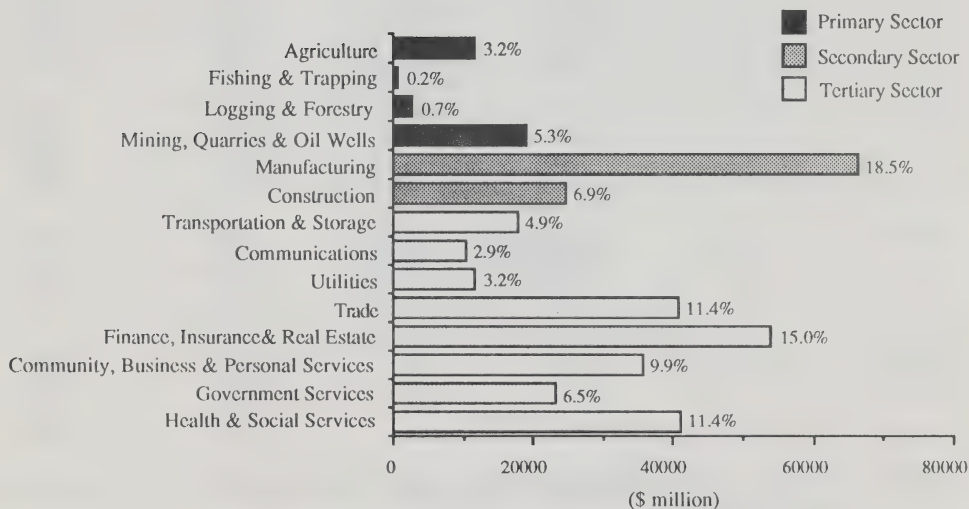
<sup>1</sup> Private non-farm productivity is the average output per person-hour in all industries excluding agriculture, non-commercial services, public administration and defence. Data based on market prices in 1981 dollars.

Source: Conference Board of Canada, 1986.



# REAL GROSS DOMESTIC PRODUCT AT FACTOR COST:1986

(total=\$358.9 billion\*)



\* \$1981

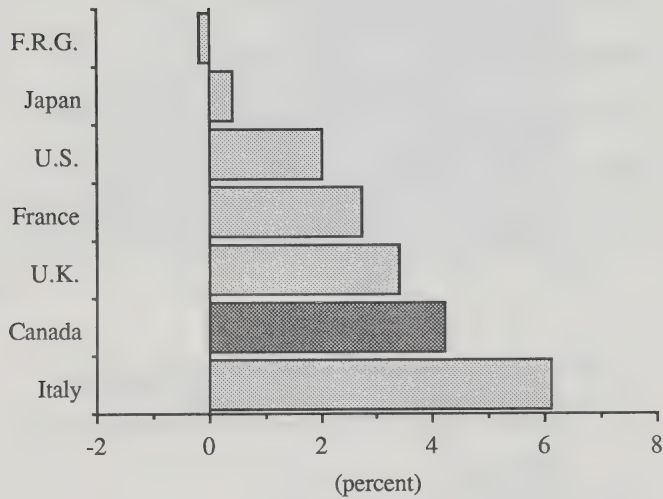
Source: Statistics Canada

TABLE 3  
INDEX OF COMPARATIVE STOCK MARKET PERFORMANCE

<u>Year</u>	<u>Quarter</u>	<u>TSE Composite</u>	<u>Standard and Poor 500</u>	<u>Dow Jones Industry</u>	<u>London</u>
1982	1	100.0	100.0	100.0	100.0
	2	86.1	99.0	98.7	98.2
	3	100.0	110.5	108.9	104.5
	4	123.3	125.8	127.2	106.5
1983	1	135.8	136.5	137.3	116.6
	2	154.1	150.1	148.5	128.0
	3	157.5	150.9	149.9	123.4
	4	160.8	148.4	153.0	137.3
1984	1	150.0	142.1	141.6	155.6
	2	139.9	138.2	137.6	143.0
	3	150.7	149.9	146.7	154.7
	4	151.2	148.5	147.3	169.4
1985	1	164.6	161.9	154.0	174.6
	2	170.8	170.5	162.3	169.7
	3	165.8	164.4	161.5	178.7
	4	182.7	190.7	188.0	201.5
1986	1	191.9	215.6	221.0	248.0
	2	194.3	226.4	230.0	238.2
	3	187.6	208.8	214.8	218.2
	4	193.1	218.6	230.4	232.5

Source: Toronto Stock Exchange; Standard and Poor; Dow Jones Investors Handbook;  
The Economist.

**CHANGE IN CONSUMER PRICES**  
**SELECTED OECD COUNTRIES**  
**1986**

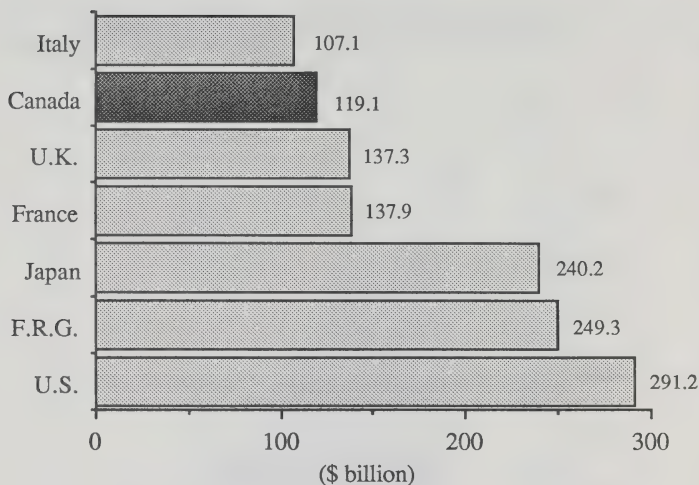


Source: OECD, Economic Outlook, June 1987.

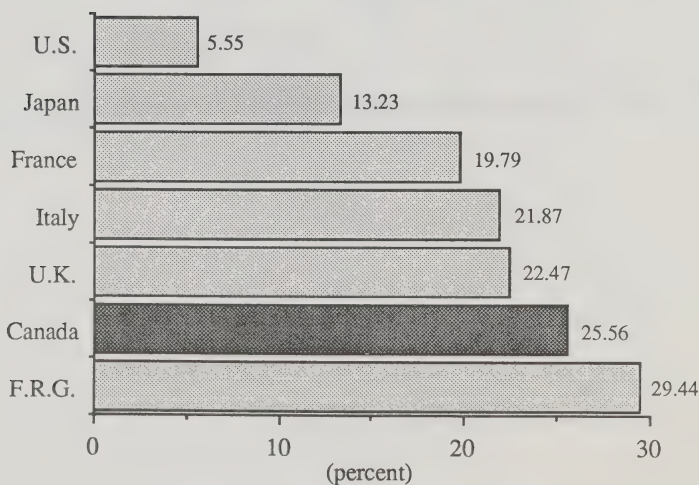
## EXPORTS BY SELECTED OECD

### COUNTRY: 1985

(including re-exports)

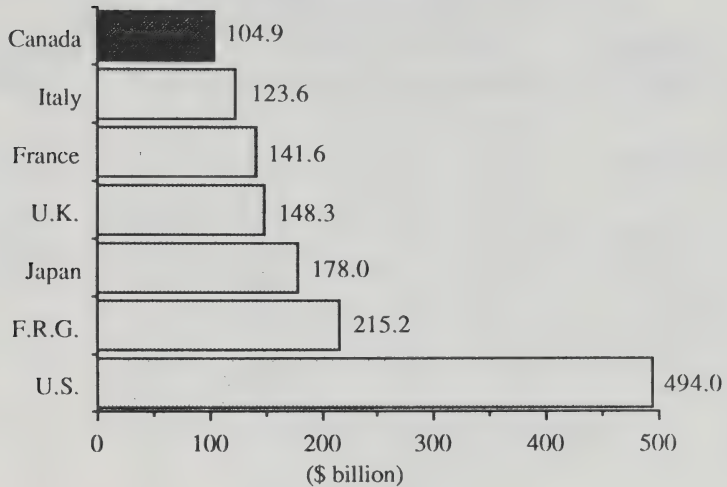


## EXPORTS AS PERCENT OF GDP SELECTED OECD COUNTRIES: 1985

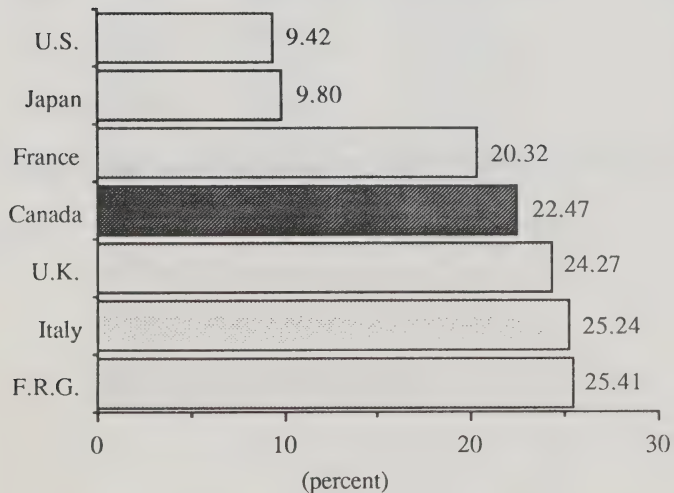


Source: OECD Main Indicators, December 1986.

## IMPORTS BY SELECTED OECD COUNTRY: 1985



## IMPORTS AS % OF GDP: 1985 SELECTED OECD COUNTRIES



Source: OECD Main Economic Indicators, December 1986.



TABLE 4  
DIRECTION OF CANADIAN TRADE, 1986 (Customs Basis)

<u>Country</u>	<u>Domestic Exports</u>		<u>Imports</u>		<u>Balance</u>
	<u>\$ billion</u>	<u>%</u>	<u>\$ billion</u>	<u>% (\$ billion)</u>	
United States	90.3	77.5	77.7	68.8	12.6
Japan	5.9	5.1	7.6	6.7	-1.7
United Kingdom	2.5	2.1	3.7	3.3	-1.2
USSR	1.2	1.0	0.03	0.03	1.2
Peoples Republic of China	1.1	0.9	0.6	0.5	0.5
West Germany	1.3	1.1	3.5	3.1	-2.2
Netherlands	1.0	0.8	0.7	0.6	0.3
Belgium-Luxembourg	0.8	0.7	0.6	0.5	0.2
South Korea	1.0	0.8	1.7	1.5	-0.7
France	1.0	0.8	1.6	1.4	-0.6
Mexico	0.4	0.3	1.2	1.1	-0.8
Italy	0.7	0.6	1.7	1.5	-1.0
Taiwan	0.6	0.5	1.7	1.5	-1.1
Australia	0.6	0.5	0.5	0.4	0.1
Hong Kong	0.3	0.3	1.0	0.9	-0.7
Other	<u>7.8</u>	<u>6.7</u>	<u>9.2</u>	<u>8.1</u>	<u>-1.4</u>
TOTAL	116.5	100.0	113.0	100.0	3.5

Source: Statistics Canada, Summary of Canadian International Trade, December 1986.

TABLE 5  
CRUDE OIL AND EQUIVALENT  
SUPPLY AND DEMAND IN CANADA (000 m<sup>3</sup>/day)

<u>Year</u>	<u>Indigenous Supply</u>	<u>Imports</u>	<u>Exports</u>	<u>Total Demand</u>	<u>Reserves (million m<sup>3</sup>)</u>
1980	244.6	88.1	32.7	331.2	951
1981	220.1	80.9	25.7	303.1	1063
1982	217.5	53.9	34.0	270.8	1021
1983	230.0	39.3	45.8	271.4	1023
1984	243.5	39.3	54.1	281.4	1124
1985	249.6	45.0	74.7	293.6	1068
1986	249.7	56.4	92.5	307.2	n/a

Source: Energy, Mines and Resources, Energy Statistics Handbook.

TABLE 6  
NATURAL GAS PRODUCTION AND CONSUMPTION IN CANADA (billion metres<sup>3</sup>)

	<u>Annual Production</u>	<u>Domestic Consumption</u>	<u>Exports less Imports</u>	<u>Year-end Reserves</u>
1980	78.5	55.9	22.6	2492
1981	75.5	53.4	21.6	2563
1982	77.1	53.7	22.2	2591
1983	72.5	53.2	20.2	2613
1984	79.4	57.7	21.4	2809
1985	87.0	62.1	26.2	n/a
1986	82.6	60.6	20.8	n/a

Source: Energy, Mines and Resources, Energy Statistics Handbook.

TABLE 7  
ELECTRIC POWER SUPPLY AND DEMAND, 1985

<u>Province</u>	<u>Peak Demand (mW)</u>	<u>Installed Capacity (mW)</u>
Newfoundland	1,735	2,056
Prince Edward Island	95	124
Nova Scotia	1,319	2,250
New Brunswick	1,953	3,032
Quebec	26,322	32,108
Ontario	21,644	29,395
Manitoba	3,043	3,948
Saskatchewan	2,260	2,655
Alberta	5,456	6,623
British Columbia	8,322	12,533
Northwest Territories/Yukon	<u>218</u>	<u>298</u>
CANADA	72,367	95,022

Source: Energy, Mines and Resources, Electrical Power in Canada, 1985.

TABLE 8  
 REPRESENTATIVE RETAIL PRICES FOR  
SELECTED REFINED PETROLEUM PRODUCTS, 1986 AVERAGE (¢/l)

	GASOLINE				Heating Oil
	<u>Regular Leaded</u>	<u>Regular Unleaded</u>	<u>Premium Unleaded</u>	<u>Automotive Diesel Fuel</u>	<u>Domestic</u>
Newfoundland	54.8	57.7	58.6	61.8	35.0
Prince Edward Island	51.4	53.6	54.7	58.8	33.1
Nova Scotia	50.1	51.9	52.9	52.6	31.5
New Brunswick	50.2	52.9	54.2	53.7	34.3
Quebec	50.8	54.6	56.0	50.1	28.7
Ontario	42.3	45.5	46.5	47.1	32.0
Manitoba	47.7	48.9	50.0	46.1	34.8
Saskatchewan	35.8	38.0	39.3	40.8	30.1
Alberta	38.3	40.4	41.6	35.5	n/a
British Columbia	44.8	47.2	48.5	44.6	31.6
CANADA	44.8	47.7	48.9	46.1	30.9
¢ per US gallon	169.7	180.7	185.2	174.6	117.0

Source: Energy, Mines and Resources, Energy Statistics Handbook.

TABLE 9  
PRICES IN VARIOUS COUNTRIES FOR SELECTED  
REFINED PETROLEUM PRODUCTS - MAY 1986

	<u>Regular Leaded Gasoline</u>		<u>Domestic Heating Oil</u>	
	<u>¢ litre</u>	<u>¢/US gallon</u>	<u>¢ litre</u>	<u>¢/US gallon</u>
Canada	42.7	161.7	30.5	115.5
United States	31.1	117.8	30.2	114.4
United Kingdom	79.2	300.0	35.9*	136.0
France	97.0*	367.4	57.0**	215.9
Italy	106.5	403.4	48.5	183.7
West Germany	75.6	286.3	38.9	147.3

\* March 1987

\*\* January 1987

Source: Energy, Mines & Resources, Energy Statistics Handbook.

TABLE 10  
COMPARATIVE AVERAGE DOMESTIC PRICES FOR ELECTRICITY IN 1986

	<u>Commercial</u>	<u>Industrial</u>
	(1,000 KW Demand 500,000 KWH Consumption) (¢/KWH)	(5,000 KW Demand 3.1 MWH Consumption)
Newfoundland	5.98	5.66
Prince Edward Island	8.48	7.58
Nova Scotia	6.69	4.68
New Brunswick	6.47	4.24
Quebec	4.17	3.08
Ontario	4.41	4.13
Manitoba	3.09	2.52
Saskatchewan	5.32	4.80
Alberta	3.81	3.17
British Columbia	4.00	3.15
CANADA average	4.42	3.65

Source: Energy, Mines and Resources, Energy Statistics Handbook.



TABLE 11  
TYPICAL MONTHLY ELECTRICITY COSTS  
FOR SELECTED CANADIAN CITIES, JANUARY 1, 1986 (dollars)

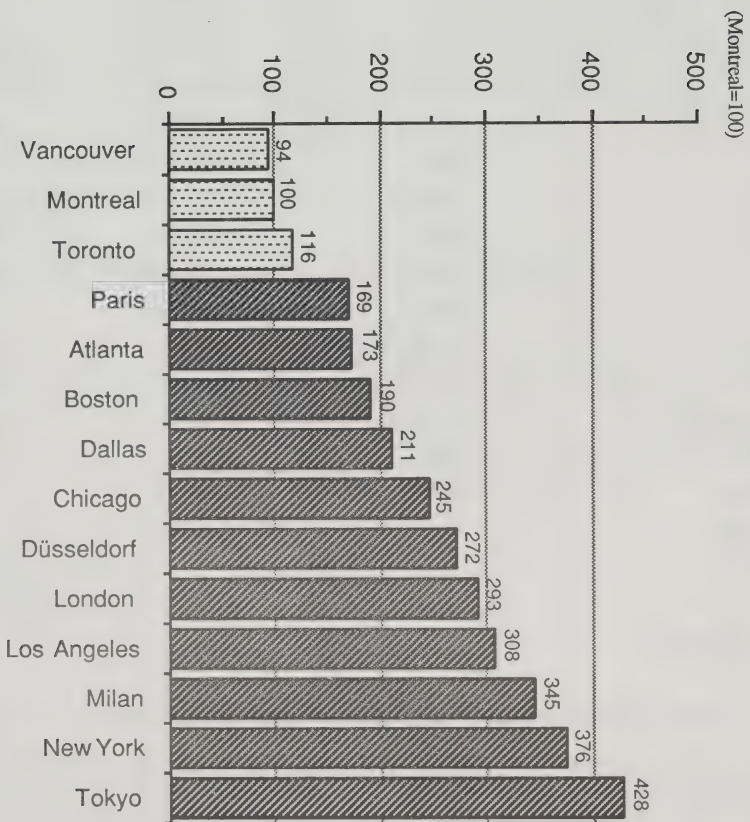
<u>Sector</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>
Billing demand <sup>1</sup> (KW)	-	100	1,000
Consumption (KWh)	1,000	25,000	400,000
Vancouver	52.38	1,308.05	15,766.15
Calgary	51.23	1,469.26	16,963.00
Edmonton	51.50	1,563.60	19,980.84
Regina	47.26	1,497.20	19,009.70
Winnipeg	38.35	1,013.60	11,505.19
Toronto	52.89	1,626.50	19,730.00
Ottawa	46.89	1,223.78	17,393.78
Montreal	46.04	1,367.80	15,166.00
Moncton	64.50	2,006.30	20,450.00
Halifax	65.72	2,047.21	21,134.61
Charlottetown	117.88	3,365.81	48,385.70
St. John's	70.01	1,769.98	22,101.29
Whitehorse	69.30	2,205.00	n/a
Yellowknife	90.79	2,669.00	n/a

n/a - not available

Source: Statistics Canada, Electricity Bills, Catalogue 57-203, 1986.

- <sup>1</sup> Electricity costs for commercial and industrial accounts are based on a dual meter system. One meter registers the peak load of electricity used during the period (billing demand) and the second meter registers actual consumption during the period.

# COMPARATIVE INDUSTRIAL ELECTRICITY COSTS: 1986



Source: Montreal Urban Community, Decision Montreal.

TABLE 12  
COMPARATIVE DOMESTIC COSTS FOR NATURAL GAS, 1986

	<u>Commercial</u>		<u>Industrial</u>	
	\$ per 10 m <sup>3</sup>	\$ per 1,000 ft <sup>3</sup>	\$ per 10 ft <sup>3</sup>	\$ per 1,000 ft <sup>3</sup>
New Brunswick	5.23	14.80	n/a	n/a
Quebec	2.15	6.08	1.73	4.90
Ontario	1.82	5.15	1.53	4.33
Manitoba	1.58	4.47	1.28	3.62
Saskatchewan	1.26	3.57	1.15	3.25
Alberta	1.05	2.97	0.78	2.21
British Columbia	1.69	4.78	1.21	3.42
CANADA	1.61	4.56	1.23	3.48

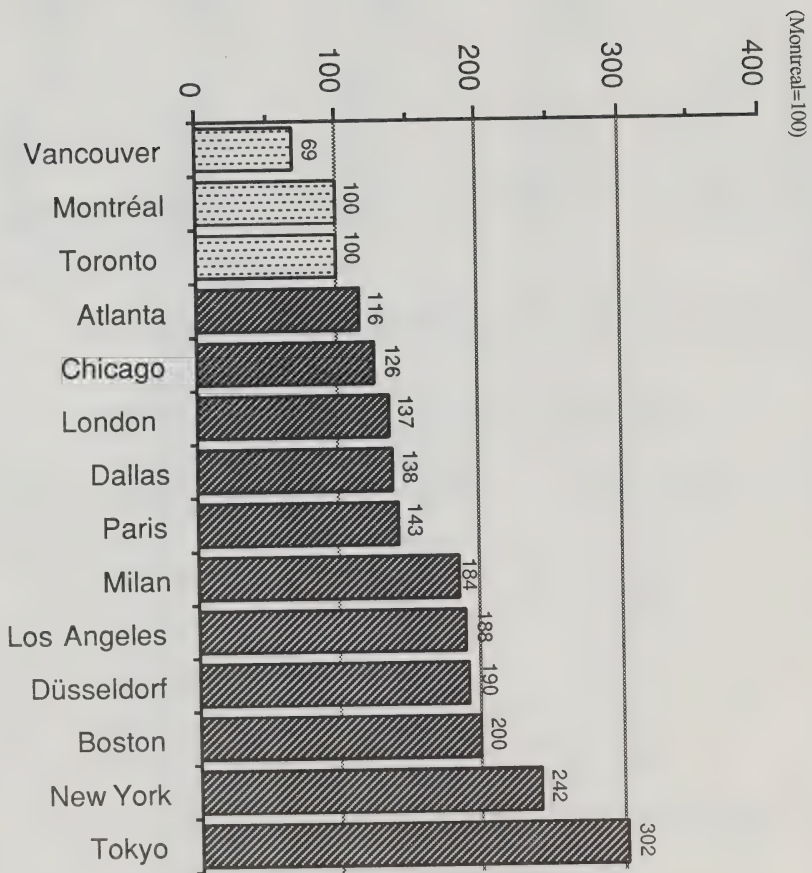
Source: Energy, Mines and Resources, Energy Statistics Handbook.

TABLE 13  
COAL SUPPLY AND DEMAND IN CANADA (ktonnes)

<u>Year</u>	<u>Production</u>	<u>Domestic Imports</u>	<u>Domestic Demand</u>	<u>Total Exports</u>	<u>Total Demand</u>
1980	36,664	15,869	37,333	15,269	52,602
1981	40,088	14,844	38,367	15,705	54,072
1982	42,811	15,775	41,353	16,004	57,357
1983	44,780	14,667	43,649	17,011	60,660
1984	57,402	18,351	48,699	25,138	73,837
1985	60,854	14,620	48,666	27,378	76,044
1986	57,047	13,312	44,532	25,904	70,436

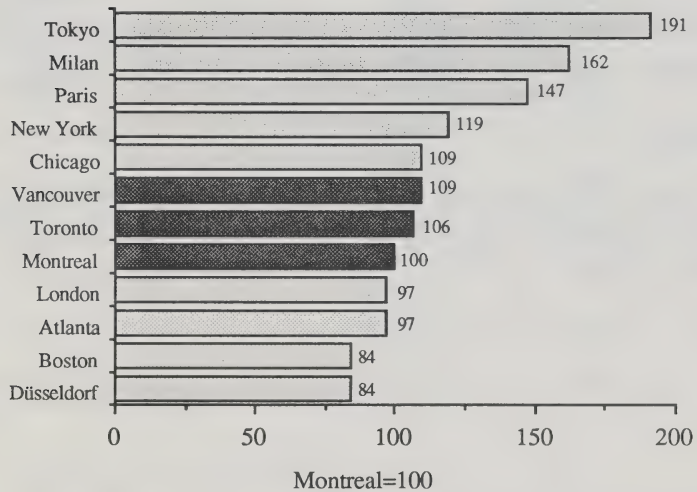
Source: Energy, Mines and Resources, Energy Statistics Handbook.

# COMPARATIVE INDUSTRIAL NATURAL GAS COSTS: 1986



Source: Montreal Urban Community, Department of Economic Expansion, Decision Montreal.

## COMPARATIVE HEATING OIL COSTS: 1986



Source: Montreal Urban Community, Department of Economic Expansion, Decision Montreal.



TABLE 14  
AVERAGE RAIL SHIPPING COSTS FOR  
PACKAGED FURNITURE, CITY TO CITY (CANADA, 1985)<sup>1</sup>

<u>Route</u>	<u>Distance</u>	<u>Price per Hundred-weight</u>	<u>Weight range (000 pounds)</u>	<u>Dollar Cost per km(mile)</u>
Halifax-Montreal	1,352 km 840 mi	\$4.73- \$4.30	24 - 45	\$0.84- \$1.43/km \$1.35- \$2.30/mi
Montreal-Toronto	539 km 335 mi	\$6.82- \$4.68	20 -45	\$2.53- \$3.90/km \$4.07- \$6.28/mi
Toronto-Winnipeg	1,989 km 1,236 mi	\$11.89- \$6.47	15 - 40	\$0.89- \$1.30/km \$1.44- \$2.09/mi
Calgary-Vancouver	1,031 km 645 mi	\$5.80	24	\$1.35/km \$2.16/mi
Vancouver-Toronto	4,360 km 2,710 mi	\$10.13- \$6.84	24 -40	\$0.56- \$0.63/km \$0.89- \$1.01/mi

Source: CN Rail

<sup>1</sup> The following rate examples are based on a shipment of packaged office furniture, transported by container or piggyback. The size of truck/ container varies according to particular route, as does the applicable rate: "Freight-all-kind" or "Furniture, office".

TABLE 15  
AVERAGE TRUCKING COSTS FOR  
PACKAGED FURNITURE, CITY TO CITY (CANADA 1986)<sup>1</sup>

<u>Route</u>	<u>Full cost Distance</u>	<u>Dollar cost of truck</u>	<u>per km./mi.</u>
Halifax to Montreal	1,249 km 775 mi	\$1,100	\$0.89/km 1.43/mi
Saint John, N.B to Montreal	940 km 583 mi	\$1,075	\$1.14/km 1.84/mi
Rivière-du-Loup, Que. to Montreal	452 km 280 mi	\$700	\$1.54/km 2.50/mi
Quebec City to Montreal	270 km 168 mi	\$400	\$1.48/km 2.38/mi
Montreal to Toronto	539 km 335 mi	\$816	\$1.51/km 2.44/mi
Toronto to Winnipeg	2,099 km 1,303 mi	\$2,346	\$1.12/km 1.80/mi
Calgary to Edmonton	299 km 186 mi	\$446	\$1.49/km 2.40/mi
Regina to Winnipeg	571 km 355 mi	\$500	\$0.88/km 1.41/mi
Calgary to Vancouver	1,057 km 656 mi	\$904	\$0.86/km 1.38/mi
Vancouver to Toronto	4,492 km 2,789 mi	\$3,695	\$0.82/km 1.32/mi
Toronto to Vancouver	4,492 km 2,789 mi	\$4438	\$0.99/km 1.59/mi

Source: Based on quotes from private companies.

<sup>1</sup> The following rate examples are based on a shipment of packaged office furniture, transported by private transport company. The prices are based on city-to-city rate, using a full truckload, on an ongoing contract basis for Canadian destinations. Truck size 45-48 feet.

TABLE 16  
TELEX RATES BETWEEN SELECTED POINTS<sup>1</sup>

<u>Between</u>	<u>Vancouver</u>	<u>Edmonton</u>	<u>Winnipeg</u>	<u>Toronto</u>	<u>Montreal</u>
Halifax	\$1.28	\$1.28	\$1.28	\$0.75	\$0.64
Montreal	1.28	1.28	1.06	0.64	
Toronto	1.28	1.28	0.74		
Winnipeg	0.85	0.75			
Edmonton	0.64				

<sup>1</sup> Rates are per minute.

Source: CNCP Telecommunications (March 1987).

TABLE 17

SELECTED TELEPHONE SERVICE RATES,<sup>1</sup> JANUARY 1986

Monthly Rate	<u>Halifax</u>	<u>Montreal</u>	<u>Toronto</u>	<u>Winnipeg</u>	<u>Edmonton</u>	<u>Vancouver</u>
(Business Basic Service one line, one phone) <sup>1</sup> Long Distance <sup>2</sup>	\$37.50	\$40.60	\$43.75	\$20.00	\$29.75	\$47.60
Halifax		2.61 6.48	2.85 6.60	3.09 6.84	3.12 6.87	3.12 6.87
Montreal	2.55 5.50		1.41 5.41	3.00 6.50	3.30 7.50	3.30 7.50
Toronto	2.88 6.20	1.41 5.41		3.00 6.50	3.30 7.50	3.30 7.50
Winnipeg	3.21 7.20	3.00 6.50	3.00 6.50		3.00 6.50	3.00 6.50
Edmonton	3.15 7.14	3.15 7.14	3.15 7.14	2.73 5.90		2.39 2.79
Vancouver	3.30 7.50	3.30 7.50	3.30 7.50	3.00 6.50	2.85 5.00	

<sup>1</sup> Deposit and installation charges not included.

<sup>2</sup> 0900 to 1700, Monday to Friday; 3 minutes. Upper: station-to-station, customer-dialed. Lower: person-to-person, operator service (May 1987).

WAGES AND COSTS TO EMPLOYERS

International comparisons of average hourly earnings and compensation in manufacturing are shown below. Hourly compensation is defined as:

- all payments made directly to the worker - pay for time worked (basic time and piece rates plus overtime premiums and cost-of-living adjustments), pay for time not worked (vacations, holidays, and other leave), all bonuses and other special payments, and the cost of payments in kind - before payroll deductions of any kind, and
- employer contributions to legally required insurance programs and contractual and private benefit plans.

In addition, in some countries, compensation is adjusted for other taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, hourly compensation does not include all items of labor costs. The costs of recruitment, employee training, and plant facilities and services such as cafeterias and medical clinics are not covered because data are not available for most countries. For consistency, compensation is measured on an hours-worked basis for every country.

TABLE 18

AVERAGE HOURLY EARNINGS AND COMPENSATION IN MANUFACTURING, 1986  
(\$ C)

	<u>Ave. Hourly Index</u>	<u>Index Canada = 100</u>	<u>Ave. Hourly Compensation</u>	<u>Index Canada = 100</u>
Canada	11.87	100.0	15.23	100.0
United States	13.52	113.9	18.19	119.4
United Kingdom	7.85	66.1	10.36	68.0
West Germany	10.79	90.9	18.67	122.6
Japan	11.36	95.7	13.20	86.7

Source: US Department of Labor, Bureau of Labor Statistics, converted at 1986 average of noon spot rates for various currencies.



TABLE 19  
HOURLY COMPENSATION COST FOR PRODUCTION WORKERS,  
ALL MANUFACTURING, SELECTED COUNTRIES (\$ Canadian)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
(\$Cdn/\$US)	1.0635	1.1402	1.1715	1.1690	1.199
CANADA	7.66	8.29	9.01	9.86	11.16
United States	8.07	9.44	10.57	11.48	12.94
Japan	4.29	6.32	6.43	6.56	7.41
West Germany	8.37	11.00	13.23	14.43	12.63
United Kingdom	3.56	4.88	6.50	8.63	8.45
France	5.65	7.46	9.20	10.66	9.77
Italy	5.42	6.94	8.34	9.35	8.86

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986*</u>
(\$Cdn/\$US)	1.2341	1.2324	1.2948	1.3652	1.3894
CANADA	12.54	13.46	14.24	14.87	15.23
United States	14.22	14.84	16.30	17.71	18.19
Japan	7.03	7.56	8.22	8.81	13.20
West Germany	12.81	12.73	12.37	13.41	18.67
United Kingdom	8.34	10.29	7.58	8.56	10.36
France	9.89	9.76	9.61	10.57	14.52
Italy	9.08	9.53	9.66	10.55	14.66

\* 1986 costs are provisional.

Source: US Department of Labor, Bureau of Labor Statistics, Division of Foreign Labor Statistics.

TABLE 20

TOTAL COST<sup>1</sup> TO EMPLOYER IN FOUR PROFESSIONS:  
MACHINIST, PRODUCTION MANAGER, ELECTRICAL ENGINEER AND SECRETARY  
(\$ Canadian - 1986)

	<u>Montreal</u>	<u>Toronto</u>	<u>Vancouver</u>	<u>Chicago</u>	<u>Los Angeles</u>	<u>New York</u>
Machinist	35,754	34,869	38,844	51,559	52,375	48,920
Production manager	57,702	54,659	60,138	70,037	68,821	74,876
Electrical engineer	45,312	46,178	47,970	63,350	66,342	61,590
Secretary	24,662	24,031	27,963	34,490	36,488	34,262

<sup>1</sup> Total cost to employer includes the gross salary paid to the employee and all the social costs the employer must pay.

Source: Montreal Urban Community, Décision Montreal.

TABLE 21  
 HOURLY COMPENSATION, OUTPUT PER HOUR, AND  
 UNIT LABOUR COSTS IN MANUFACTURING SELECTED COUNTRIES, 1982-1985  
 (Average Annual Percentage Change)

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Hourly compensation: US dollar basis				
CANADA	10.3	7.3	1.6	5.1
France	17.9	12.6	8.9	6.6
Germany	4.8	5.2	4.6	6.0
Italy	20.4	16.5	9.6	10.2
Japan	5.2	3.0	2.9	2.4
United Kingdom	9.3	7.8	6.7	8.3
United States	8.5	3.6	3.6	4.4
Output per hour				
CANADA	-2.5	6.5	3.6	3.2
France	6.1	4.7	4.4	3.9
Germany	1.4	5.7	4.8	5.8
Italy	2.0	2.6	6.6	3.0
Japan	6.1	5.4	7.0	5.1
United Kingdom	4.4	7.5	4.1	2.8
United States	2.2	6.6	5.0	2.8
Unit labour costs: US dollar basis				
CANADA	10.2	1.0	-6.8	-3.4
France	-8.1	-7.1	-9.0	-0.1
Germany	-4.2	-5.3	-10.4	-3.0
Italy	-0.7	1.1	-11.0	-1.5
Japan	-12.1	2.5	-3.9	-2.8
United Kingdom	-9.7	-13.1	-9.7	2.4
United States	6.1	-2.8	-1.2	1.5

Source: United States, Department of Labor, Bureau of Labor Statistics, Monthly Labor Review, January 1987.

TABLE 22  
 COMPARATIVE HOURLY WAGE RATES IN CANADA AND US  
 BY REGION - YEARLY AVERAGES, 1982 TO 1986  
 (current Canadian dollars)

	1982	1983	1984	1985	1986*
Central					
Ontario	10.16	10.52	11.16	11.61	12.11
Quebec	9.45	9.81	10.40	10.85	11.11
Michigan	13.80	14.32	15.76	17.26	17.76
Indiana	12.08	12.45	13.53	14.62	15.02
Ohio	12.43	13.01	14.19	15.54	16.06
Kentucky	10.34	10.83	12.02	13.01	13.62
West Virginia	11.60	12.00	12.86	13.98	14.39
Tennessee	8.84	9.23	10.27	11.32	11.85
North Carolina	7.84	8.23	9.08	9.95	10.49
South Carolina	8.24	8.66	9.43	10.39	11.00
Atlantic					
New Brunswick	9.37	9.74	10.15	10.44	11.12
Nova Scotia	9.02	9.74	9.93	10.17	10.59
Prince Edward Island	n/a	6.96	7.21	7.37	7.39
Newfoundland	9.27	9.07	10.32	10.23	10.57
New Hampshire	8.58	9.10	10.16	11.45	12.21
Vermont	9.07	9.44	10.40	11.48	12.25
New York	10.30	10.89	11.94	13.20	13.78
Pennsylvania	10.65	11.03	12.02	13.06	13.52
Massachusetts	9.35	9.87	11.01	12.27	12.85
Connecticut	10.16	10.80	11.94	13.05	13.85
Rhode Island	8.16	8.53	9.36	10.35	11.00
New Jersey	10.74	n/a	12.30	13.46	14.16
Delaware	10.66	11.25	12.04	13.43	13.96

n/a - not available

Note: US data is based on average hourly earnings of production workers on manufacturing payrolls. Canadian data is based on average hourly earnings for employees paid by the hour in manufacturing.

(Cont'd)

Comparative Costs

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	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986*</u>
West Coast					
British Columbia	13.87	14.17	14.58	15.07	15.24
Alberta	11.93	12.13	11.26	12.39	12.52
Washington	13.86	14.07	15.03	15.88	16.35
Idaho	10.64	10.46	12.09	12.86	13.41
Oregon	12.37	12.67	13.52	14.33	14.70
Montana	12.16	12.84	12.07	14.87	15.01
Wyoming	10.53	10.75	11.47	13.44	13.67
California	11.40	11.73	12.65	13.82	14.39
Nevada	10.86	11.12	11.81	12.51	13.00
Utah	10.37	10.73	11.59	12.85	13.42
Colorado	10.65	11.05	11.96	13.00	13.48
Prairies					
Manitoba	9.07	9.14	9.80	9.95	10.16
Saskatchewan	11.13	10.97	11.39	11.75	11.90
North Dakota	9.26	9.54	10.18	11.02	11.38
South Dakota	9.08	8.97	9.26	11.16	10.77
Minnesota	11.24	11.78	12.62	13.73	14.21
Wisconsin	11.56	12.05	12.99	14.01	14.42
Iowa	12.34	12.43	13.27	14.09	14.39
Nebraska	10.40	10.78	11.55	12.33	12.88
Missouri	10.44	10.96	11.65	13.06	13.64
Kansas	10.82	11.44	12.17	12.91	13.52
Illinois	11.48	11.95	13.05	14.16	14.73

Source: Statistics Canada: Employment, Earnings and Hours; US Department of Labor, Bureau of Labor Statistics. Employment and Earnings; Washington State, Department of Employment Security.



TABLE 23  
 EMPLOYEE BENEFIT COSTS IN CANADA AND THE UNITED STATES  
 AS A PERCENTAGE OF GROSS ANNUAL PAYROLL - 1986

	Overall		Manufacturing		Non-manufacturing	
	US 36.6	Canada 36.3	US 38.8	Canada 35.5	US 34.8	Canada 37.0
Overall						
Paid vacations and payments in lieu of vacation	4.8	6.5	5.0	6.1	4.6	6.9
Payments for holidays not worked	2.8	3.7	3.0	3.6	2.5	3.9
Payments for guard, jury or witness duty, death in the family or other personal reasons	0.4	1.0(g)	0.3	0.8(g)	0.5	1.1(g)
Payments for Time Not Worked	8.0	11.2	8.3	10.5	7.6	11.9
Old age, survivors and disability insurance	6.6	1.3(b)	6.7	1.2(b)	6.5	1.3(b)
Unemployment compensation	1.7	2.3	2.3	2.3	1.2	2.3
Workmen's compensation	1.2	2.0	1.8	1.6	0.8	2.3
Railroad retirement tax, railroad unemployment insurance, state sickness benefits insurance etc.	0.1	-	0.1	-	0.1	-
Legally Required Payments	9.6	5.5	10.9	5.1	8.5	6.0
Pension plan premiums and pension payments not covered by insurance type plan (net)	4.7	4.1	3.9	3.6	5.4	4.6
Life insurance premiums, death benefits, hospital, surgical medical, LTD premiums, paid sick leave, etc (net)	8.7	5.4	9.4	5.0	8.0	5.7
Short- and long-term disability insurance	0.5	(c)	0.5	(c)	0.5	(c)
Dental insurance premiums	0.4	(c)	0.4	(c)	0.4	(c)
Discount on goods and services purchased from company by employees	0.1	(f)	*	(f)	0.1	(f)
Miscellaneous payments (free meals, separation or termination pay allowance, moving allowance compensation payments in excess of legal requirements, etc.)	0.4	2.9(d)	0.3	2.8(d)	0.5	3.0(d)

# Comparative Costs

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	<u>Overall</u>		<u>Manufacturing</u>		<u>Non-manufacturing</u>	
	<u>US</u>	<u>Canada</u>	<u>US</u>	<u>Canada</u>	<u>US</u>	<u>Canada</u>
Paid rest periods, lunch periods, washup, travel, clothes - change and get ready time	1.9	3.9(e)	2.1	4.1(e)	1.7	3.8(e)
Pension and other agreed-upon payments	16.7	16.3	16.7	15.5	16.6	17.1
Profit-sharing and thrift plan payments, Christmas or other special bonuses, service awards, suggestion awards, tuition, etc.	1.8	3.1(h)	2.4	4.4(h)	1.4	2.0(h)
Special wage payments ordered by courts, payments to union stewards	0.2	-	0.3	-	0.2	-
Employee education expenditures	0.3	(f)	0.1	(e)	0.4	(e)
<u>Other Items</u>	2.4	3.1	2.8	4.4	2.0	2.0

- (a) US source EMPLOYEE BENEFITS, 1984 prepared for the Research Centre, Economic Policy division, the Chamber of Commerce of the United States.
- (b) Includes CPP/QPP contributions.
- (c) Canadian figures included in life insurance premiums, accident and medical insurance, etc.
- (d) Includes other noncash benefits (free lodging, loss of cafeteria, recreational projects, etc.)
- (e) Canadian figures include rest periods and coffee breaks.
- (f) Canadian figures included in miscellaneous payments.
- (g) Canadian figures include bereavement, jury duty and other paid time off.
- (h) Canadian figures include profit-sharing and bonus plan payments only.

- Less than 0.05 percent

Source: Thorne Stevenson and Kellogg, Employee Benefit Costs in Canada, 1986; US Chamber of Commerce, Economic Policy Division, Research Center, Employee Benefits, 1984.

## STRIKES AND LOCKOUTS

### Labour Relations In Canada

A decentralized approach to collective bargaining is one of the most distinctive features of Canadian labour relations. Due to the federal/provincial division of powers, the federal government exercises jurisdiction in labour relations matters over approximately 10 percent of the labour force, with the remaining 90 percent falling under provincial authorities.

Unlike most European union structures, the Canadian labour federations (such as the Canadian Labour Congress) have no bargaining authority. Most bargaining in Canada takes place between a single employer and a single union. This allows individual firms to exercise a large degree of influence on their own labour terms and climate, and reduces the potential of national-level industry-wide stoppages.

The decentralized union structure allows Canadian unions to be more flexible and responsive to local issues and concerns than some counterparts in other industrialized nations. As well, there is increasing consultation by labour groups with business and government in such activities as the Canadian Labour Market and Productivity Centre, the Ministerial Task Force on Program Review, the Royal Commission on the Economic Union and Development Prospects for Canada, and the Ontario Government Task Force on Microelectronics.

Generally, labour relations in Canada are characterized by fidelity to contractual and statutory regulations, with a low incidence of illegal, political, or violent strike activity.

### Strikes and Lockouts

Strikes and lockouts are heavily regulated in Canada. Work stoppages during the term of a collective agreement are prohibited, and all disputes that arise during the life of a contract must be settled through a grievance procedure and/or binding arbitration. These legal requirements do not exist in the US. Other legislative and administrative provisions assist in the resolution of bargaining disputes: compulsory conciliation (provided by government at no cost) is designed to assist in the negotiation process.

International comparisons of strikes and lockouts are often difficult and inaccurate because of differing social, political and organizational structures. Data collection and statistical methodologies regarding labour disputes vary widely among countries. There are wide variations in the definitions used, as well as differing minimum requirements for the duration and size of a stoppage. Some countries do not include strikes based on political motives. Work slowdowns, which are generally not reported, are a more common bargaining tactic in some countries, such as Japan. A comparison of US and Canadian methodologies highlights some of these problems.

Canada-US Comparisons

Canadian data collection is more comprehensive than data collection in the United States. The US does not report on strikes involving less than 1,000 workers or those lasting less than one shift, regardless of the number of workers involved. Thus, if Canada were only to report on labour disputes involving 1,000 or more workers, the number of person-days lost in 1985 would drop from a reported 3,180,710 to 1,104,470. The percentage of estimated working time lost would fall to approximately 0.05 percent from the reported figure of 0.13 percent in 1985. A similar trend is visible when US methodologies are applied to Canadian data on a per thousand employee basis.

TABLE 24  
PERSON DAYS NOT WORKED DUE TO STRIKES AND LOCKOUTS (000 employees)

	<u>National Data</u>			<u>Application of US Methodology to Canadian Data</u>		
	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Canada	438	372	297	201	151	103
US	194	90	73	194	90	73

In general, labour disputes in Canada result in a small amount of time not worked - an average (over the past five years) of less than three-tenths of one percent of total working time per year.

Overall, more than 90 percent of all collective agreements are reached without a work stoppage.

The level of strikes and lockouts in Canada is declining. In 1985, the number of workers involved in work stoppages was down 14 percent from the previous year, and was almost 65 percent below the number in 1979. The aggregate number of person-days not worked in 1985 declined 13.6 percent from the previous year, and was 59 percent below the 1979 figure.

TABLE 25  
WORK STOPPAGES IN SELECTED COUNTRIES, 1979-85 (number of disputes)

Country	1979	1980	1981	1982	1983	1984	1985
CANADA <sup>1</sup>	1,050	1,028	1,048	677	645	717	825
Australia <sup>2</sup>	2,042	2,429	2,915	2,060	1,788	1,962	1,845
France <sup>3</sup>	3,121	2,118	2,405	3,113	2,837	2,537	1,901
West Germany <sup>4</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Italy <sup>5</sup>	2,000	2,238	2,204	1,747	1,565	1,816	1,341
Japan <sup>6</sup>	1,153	1,133	955	944	893	596	627
Sweden	207	212	68	46	92	206	160
United Kingdom <sup>7</sup>	2,080	1,330	1,338	1,528	1,352	1,206	903
United States <sup>8</sup>	235	187	145	196	81	62	54

- 1 Canada - Excludes disputes in which time lost is less than 10 person-days  
 - Excludes workers indirectly affected
- 2 Australia - Excludes disputes in which time lost is less than 10 person-days
- 3 France - Excludes agriculture and public administration  
 - Localized disputes: stoppages concerning firms or establishments
- 4 West Germany - Includes disputes lasting less than one day only if more than 100 working days lost
- 5 Italy - Excludes political strikes  
 - Excludes agriculture  
 - Excludes workers indirectly affected by disputes in their own establishment
- 6 Japan - Excludes stoppages lasting less than half a day  
 - Excludes workers indirectly affected
- 7 UK - Excludes workers in other establishments indirectly affected  
 - Includes disputes lasting less than one day only if more than 100 person-days lost  
 - Excludes disputes not connected with terms of employment or conditions of labour
- 8 US - Excludes disputes lasting less than a full day or shift  
 - Excludes disputes involving less than 1,000 workers

From: Akivah L. Starkman, The Canadian Labour Relations Climate and Investment Attitudes, Department of Regional Industrial Expansion, (January, 1986).

Source: International Labour Office, Yearbook Labour Statistics, and United States Department of Labor, Bureau of Labor Statistics, Handbook of Labor Statistics.



TABLE 26  
STRIKES AND LOCKOUTS IN CANADA, 1979-86

<u>Year</u>	<u>Work stoppages</u>	<u>Workers involved in work stoppages</u>	<u>person/ days lost</u>	<u>P.D.s lost as percent of estimated total working time</u>	<u>Percent of settlements following work stoppages</u>
1986*	450	238,996	3,284,065	0.26	6 **
1985	825	159,727	3,180,710	0.13	6
1984	717	186,755	3,681,820	0.16	7
1983	645	329,309	4,443,960	0.19	7
1982	677	444,032	5,795,420	0.25	7
1981	1,048	338,548	8,878,490	0.37	15
1980	1,028	441,025	8,975,390	0.38	12
1979	1,050	462,504	7,834,230	0.34	11

\* January to June 1986.

\*\* January to September 1986.

Source: Labour Canada, Strikes and Lockouts in Canada.

TABLE 27  
STRIKES AND LOCKOUTS IN CANADA, BY INDUSTRY, 1980-86

## A: Number of Strikes and Lockouts

<u>Industry</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986*</u>
Agriculture	1	3	3	2	2	1	-
Forestry	8	14	3	5	9	8	1
Fishing	2	1	-	1	-	-	-
Mines	33	42	8	12	9	12	12
Manufacturing	404	423	292	311	343	356	191
Construction	69	44	63	24	36	14	32
Transportation and utilities	106	101	67	63	48	96	37
Trade	109	90	72	74	101	129	66
Finance	20	18	15	17	23	18	7
Services	218	221	110	104	112	161	76
Public administration	58	90	43	32	34	31	28
Various industries	-	1	1	-	-	-	-
TOTAL	1,028	1,048	677	645	717	825	450

\* January to June 1986,

Source: Labour Canada, Strikes and Lockouts in Canada,

B: Percentage Share of Total Time Lost Due to Strikes and Lockouts by Industry, 1980-85

	1980	1981	1982	1983	1984	1985	Average Annual % 1980-85
Agriculture	-	0.1	0.1	-	-	-	-
Forestry	3.8	3.9	0.1	0.3	0.3	0.3	1.5
Fishing	4.4	-	-	-	-	-	-
Mines	4.7	6.5	4.4	4.0	1.0	2.8	3.9
Manufacturing	35.0	52.2	29.2	31.2	64.0	49.6	43.5
Construction	12.3	0.5	38.0	5.5	5.8	0.4	10.4
Transportation and utilities	8.1	17.1	9.8	6.2	14.9	15.1	11.9
Trade	2.4	1.7	3.0	5.7	5.1	14.7	5.4
Finance	0.5	3.3	0.9	0.2	0.8	3.4	1.5
Services	21.0	6.5	7.2	39.8	11.4	12.1	16.3
Public administration	7.8	8.1	4.3	7.0	1.9	1.7	5.1

- Less than 0.1 percent.

Columns may not total 100 percent due to rounding.

From: Akivah L. Starkman, The Canadian Labour Relations Climate and Investment Attitudes, Department of Regional Industrial Expansion, (January, 1986).

Source: Calculations from data in Labour Canada, Strikes and Lockouts in Canada.

TABLE 28  
MEMBERSHIP OF LABOUR ORGANIZATIONS IN SELECTED COUNTRIES<sup>1</sup>

	1961	1968	1974	1981	1982	1983	1984
Total Membership (000)							
CANADA	1,447	2,010	1,591	3,487	3,617	3,563	3,651
Australia	1,895	2,191	1,777 <sup>2</sup>	2,994	3,012	2,985	n/a
Japan	8,154	10,775	12,325	12,355	12,418	12,411	12,358
Sweden	1,922	2,301	2,898	3,455	3,505	3,555	3,644
UK	9,916	10,200	11,764 <sup>3</sup>	12,106	11,593	11,338	11,086
US	16,303	10,721 <sup>4</sup>	22,809	n/a	19,763	18,634	18,306
West							
Germany	6,306	7,714	8,658	9,340	9,226	9,109	n/a

TABLE 28 (continued)

	<u>1961</u>	<u>1968</u>	<u>1974</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Percentage of wage and salary earners							
CANADA	29.5	30.2	31.5	35.3	37.8	37.0	37.1
Australia	59.0	50.6	55.3 <sup>2</sup>	55.8	57.3	57.8	n/a
Japan	34.3	34.2	33.9	30.6	30.3	29.5	29.0
Sweden	n/a	70.9	80.3	88.8	90.4	91.4	92.7
UK	43.4	45.0	51.6 <sup>3</sup>	57.5	54.0	53.5	52.4
US	30.2	30.6 <sup>4</sup>	29.4	n/a	22.1	20.7	19.4
West							
Germany	30.9	37.3	40.0	41.9	42.2	42.3	n/a

From: E.D. Wood and Pradeep Kumar, Current Industrial Relations Scene in Canada, (Kingston: Industrial Relations Centre, Queen's University, 1986), p. 292.

- <sup>1</sup> International comparisons should be approached with caution in view of the different methods used in each country to compile trade union membership.
- <sup>2</sup> In 1974 Australia changed the method in which union membership was calculated. The 1974 figure which is strictly comparable to those before the change is 2,762,000, 55 percent of wage and salary earners.
- <sup>3</sup> Due to the exclusion, beginning in 1975, of 31 organizations previously regarded as trade unions, figures after 1975 are not strictly comparable with those before.
- <sup>4</sup> Beginning in 1968, the US figures include the membership of employee associations. The 1968 figure strictly comparable with the figures of preceding years is 18,916,000 - 27.9 percent of wage and salary earners.

Sources: Union Membership: Australia Commonwealth Bureau of Census and Statistics, Official Yearbook of the Commonwealth of Australia; Canada, Labour Canada, Directory of Labour Organizations in Canada; Japan, Statistics and Information Department, Yearbook of Labour Statistics; Sweden, National Bureau of Statistics, Statistical Abstract of Sweden; United Kingdom, Department of Employment, Employment Gazette; United States, Bureau of Labour Statistics, Directory of National Unions and Employee Associations; West Germany, Federal Republic of Germany, Statistisches Jahrbuch, Wage and Salary Earners: OECD, Labour Force Statistics.

TABLE 29  
UNION MEMBERSHIP IN CANADA, BY INDUSTRY

	<u>1971</u>	<u>1975</u>	<u>1982</u>	<u>1984</u>
Percentage distribution by industry				
Forestry	1.0	1.0	0.7	0.8
Mining	2.0	2.0	1.6	1.4
Manufacturing	32.6	30.7	26.2	22.2
Construction	10.4	10.7	8.9	6.3
Transportation, communication and other utilities	14.9	14.7	14.6	13.5
Trade	4.1	4.4	4.8	5.2
Finance	0.1	0.5	0.5	0.5
Services	17.6	17.9	24.8	34.1
Public administration	14.9	16.5	16.7	16.1
As a percent of non-agricultural paid workers, by industry				
Forestry	41.4	45.5	37.7	42.5
Mining	37.1	41.8	31.7	26.4
Manufacturing	47.3	47.8	45.6	39.1
Construction	63.1	65.2	65.9	47.5
Transportation, communication and other utilities	51.8	52.5	54.0	56.4
Trade	8.7	8.8	9.4	9.8
Finance	0.9	3.0	3.1	2.7
Services	21.7	21.2	25.6	36.9
Public administration	74.3	76.3	78.7	72.4

From: E.D. Wood and Pradeep Kumar, Current Industrial Relations Scene in Canada, (Kingston: Industrial Relations Centre, Queen's University, 1985), pp. 240-1.

Source: Statistics Canada, Corporations and Labour Returns Act, Part II, and Estimates of Employees by Province and Industry.



TABLE 30  
GROSS DOMESTIC PRODUCT, CANADA AND UNITED STATES

(First Quarter 1982 = 100)

Year	Q	Canada			United States		
		\$ Canadian	Index	Percent Change	\$ US	Index	Percent Change
1982	1	369.5	100.0		3062.3	100.0	
	2	372.2	100.7	0.73	3105.9	101.4	1.42
	3	376.9	102.0	1.26	3127.4	102.1	0.69
	4	380.4	102.9	0.93	3163.8	103.3	1.16
1983	1	388.5	105.1	2.13	3216.3	105.0	1.66
	2	400.7	108.4	3.14	3320.2	108.4	3.23
	3	412.9	111.7	3.04	3392.4	110.8	2.17
	4	419.6	113.6	1.62	3494.6	114.1	3.01
1984	1	430.3	116.5	2.55	3622.1	118.3	3.65
	2	441.4	119.4	2.51	3697.7	120.7	2.09
	3	446.8	120.9	1.29	3751.3	122.5	1.45
	4	455.0	123.1	1.84	3798.8	124.1	1.27
1985	1	463.4	125.4	1.85	3866.8	126.3	1.79
	2	471.0	127.5	1.64	3923.8	128.1	1.47
	3	480.2	130.0	1.95	3991.4	130.3	1.72
	4	490.9	132.9	2.23	4045.8	132.1	1.36
1986	1	496.5	134.4	1.14	4106	134.1	1.49
	2	502.6	136.0	1.23	4140.7	135.2	0.85
	3	508.3	137.6	1.13	4203.2	137.3	1.51
	4	513.6	139.0	1.04	4225.7	138.0	0.54

Source: Bank of Canada, Bank of Canada Review; US Department of Commerce, Survey of Current Business.

TABLE 31  
EMPLOYMENT IN NON-AGRICULTURAL INDUSTRIES

Year	Q	Canada			United States		
		(000)	Index	Percent Change	(000)	Index	Percent Change
1982	1	10,289	100.0		90,438	100.0	
	2	10,234	99.5	-0.5	90,081	99.6	-0.4
	3	10,082	98.0	-1.5	89,316	98.8	-0.8
	4	10,035	97.5	-0.5	88,796	98.2	-0.6
1983	1	10,096	98.1	0.6	88,815	98.2	0.0
	2	10,232	99.4	1.3	89,426	98.9	0.7
	3	10,327	100.4	0.9	90,403	100.0	1.1
	4	10,272	99.8	-0.5	91,686	101.4	1.4
1984	1	10,403	101.1	1.3	92,765	102.6	1.2
	2	10,457	101.6	0.5	93,729	103.6	1.0
	3	10,579	102.8	1.2	94,915	105.0	1.3
	4	10,653	103.5	0.7	95,849	106.0	1.0
1985	1	10,654	103.5	0.0	96,640	106.9	0.8
	2	10,799	105.0	1.4	97,338	107.6	0.7
	3	10,840	105.4	0.4	97,967	108.3	0.6
	4	10,978	106.7	1.3	98,668	109.1	0.7
1986	1	11,131	108.2	1.4	99,403	109.9	0.7
	2	11,145	108.3	0.1	99,848	110.4	0.4
	3	11,126	108.1	-0.2	100,316	110.9	0.5
	4	11,204	108.9	0.7	100,442	111.1	0.1

Source: Bank of Canada, Bank of Canada Review; US Department of Commerce, Survey of Current Business.

TABLE 32  
CORPORATE PRETAX PROFITS: CANADA AND UNITED STATES  
(First Quarter 1982 = 100)

Year	Q	Canada			United States		
		\$ Canadian Business	Index	Percent Change	\$ US Business	Index	Percent Change
1982	1	26.4	100.0		171.7	100.0	
	2	25.1	95.1	-4.92	170.1	99.6	-0.41
	3	26.0	98.5	3.59	171.6	99.9	0.35
	4	28.3	107.2	8.85	164.1	95.6	-4.37
1983	1	31.4	118.9	10.95	169.7	98.8	3.41
	2	36.1	136.7	14.97	201.8	117.5	18.92
	3	39.4	149.2	9.14	227.5	132.5	12.74
	4	39.7	150.4	0.76	231.5	134.8	1.76
1984	1	43.9	166.3	10.58	249.3	145.2	7.69
	2	45.8	173.5	4.33	246.5	143.6	-1.12
	3	44.6	168.9	-2.62	225.1	131.1	-8.68
	4	47.3	179.2	6.05	221.9	129.2	-1.42
1985	1	46.8	177.3	-1.06	213.8	124.5	-3.65
	2	45.0	170.5	-3.85	213.8	124.5	0.00
	3	47.5	179.9	5.56	229.2	133.5	7.20
	4	50.8	192.4	6.95	235.8	137.3	2.88
1986	1	43.6	165.2	-14.17	222.5	129.6	-5.64
	2	44.5	168.6	2.06	227.7	132.6	2.34
	3	45.1	170.8	1.35	240.4	140.0	5.58
	4	47.5	179.9	5.3	259.6	151.2	7.99

Source: Bank of Canada, Bank of Canada Review; US Department of Commerce, Survey of Current Business.

TABLE 33  
REAL GROSS NATIONAL PRODUCT TRENDS<sup>1</sup>  
(Percent change from previous period)

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
CANADA <sup>1</sup>	-4.4	3.1	5.5	4.0	3.0
United States	-2.1	3.5	6.4	2.7	2.75
United Kingdom <sup>2</sup>	1.9	3.4	3.0	3.5	2.25
West Germany	-1.0	1.8	3.0	2.5	2.75
Japan	3.3	3.2	5.1	4.5	2.25

<sup>1</sup> Aggregate computed on the basis of 1982 exchange notes.

<sup>2</sup> GDP

Source: OECD, Economic Outlook, December 1986.

TABLE 34  
R&D EXPENDITURES

	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Expenditures (\$US billions)					
CANADA	n/a	1.7	2.7	3.5	3.7
US	26.1	35.2	n/a	n/a	77.3
UK	n/a	n/a	7.0*	n/a	n/a
West Germany	n/a	n/a	n/a	18.3	n/a
Japan	4.8	10.5	18.8	n/a	23.6
Percent of National Income					
CANADA	n/a	1.30	1.37	1.51	1.69
US	2.93	2.53	n/a	n/a	2.86
UK	n/a	n/a	2.47*	n/a	n/a
West Germany	n/a	n/a	n/a	3.04	n/a
Japan	1.96	2.13	2.41	n/a	2.78
Percent Financed by Public Funds					
Canada	n/a	31.6	26.8	25.6	26.4
US	57.0	51.4	n/a	n/a	46.7
UK	n/a	n/a	48.1	n/a	n/a
West Germany	n/a	n/a	n/a	43.1	n/a
Japan	25.2	27.5	25.8	n/a	23.6

\* 1978

n/a - not available

Source: Keiza Kaho Center, Japan 1984; Statistics Canada, Science and Technology Indicators 1984.COMPARATIVE COSTS OF DOING BUSINESSCorporate Taxes

Attempts to obtain definite information comparing effective rates of federal/state (provincial) corporate taxation have been totally unsuccessful. A publication of the Department of Finance called "The Tax Systems of Canada and the United States" dealt with the effective rate of corporate taxation but used data from 1973. The data on corporate taxation is not made available in official statistics until three years after collection in Canada and until five years after collection in the United States. Since the US tax structure underwent major revisions in 1981 no reliable comparison could be made until 1982 figures are released in 1987. Even then different tax regimes would require significant adjustments to the data to allow for valid comparisons.



A 1978 study by the Department of Finance gave strong evidence that Canadian industry paid significantly less corporate taxes (as a percent of taxable income) than did corporations in the United States. While only a small number of US states (Texas, Ohio and New York) were included, state taxes only represent less than 10 percent of the federal tax rate; therefore, the conclusion would probably not be contradicted by including more states. Moreover, many US cities (at least 86) impose income taxes on corporate citizens. In all such a study would need a major research effort and require significant resources and time to complete.

Comparison of statutory rates would be easier to make, but in many cases would appear to show Canada at a disadvantage visà vis the US and lead investors to erroneous conclusions.

Effective Rate of State and Federal Taxes

Illinois	Chicago Department of Economic Development (312) 744-3881 Denis McEvoy (312) 744-8776
Maine	Portland Area Development Council Don McNamara (207) 722-2811
Massachusetts	Boston Economic Development Marilyn S. Lloyd (617) 725-3342
Michigan	Wayne County Economic Development Greg Pitoniak (313) 336-3306
Minnesota	Department of Energy and Economic Development Harry Roseflet (612) 296-5010
New York	New York State Department of Commerce Richard Harrington (518) 473-1325
Ohio	Department of Economics and Community Development Raymond Lorello (614) 466-2317
Oregon	Department of Economic Development Richard Carson (503) 373-1231
Pennsylvania	Department of Commerce Paul Bucher (717) 787-7190
Vermont	Department of Economic Development Roberta Harold (802) 828-3221
Washington	Department of Commerce and Economic Development Douglas Shaw (206) 753-3065







## MARKETS

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## MARKETS

### I

#### CANADA: THE REALITY

To much of the world, Canada presents an image of a rugged, arctic land, populated by fishermen and farmers. But natural resources, while important, now play a diminishing part in Canada's industrial economy. Canada's diversified export-oriented economic base has transformed the country into a modern trading nation with significant trade flows, in both goods and services.

In 1986, exports of goods and services accounted for 27.3 percent of Canada's gross domestic product (GDP). By comparison, exports account for only 6.8 percent and 12 percent of US and Japanese GDP respectively. Canada's largest exports are not unprocessed raw materials, but fully manufactured goods, primarily transportation equipment. Resource-based products such as wood and paper, ores and agricultural products continue to be an important contribution to the overall economy. This section puts the Canadian economy into perspective by providing information on the Canadian and North American markets.

#### 1.1 The Facts

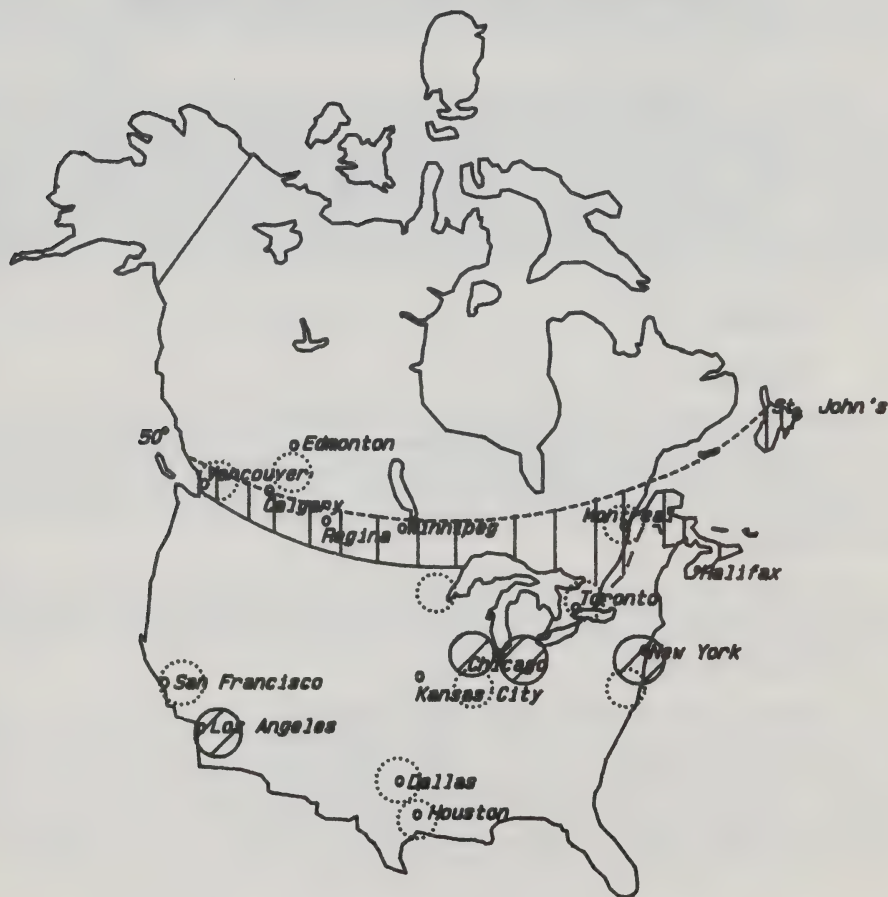
##### (a) Population

Canada has a population of 25.4 million (June 3, 1986 Census). From 1981 to 1986, the rate of population increase averaged 0.8 percent. Rates of population increase are lower in eastern Canada (an average of 0.4 percent per annum in the Atlantic region between 1981 and 1986, and 0.4 percent in Quebec). Growth in Ontario has been higher, at 1.1 percent, only slightly above the average annual pace in the Prairie provinces and British Columbia..

The population is distributed unevenly across the country, with 36 percent in Ontario, 26 percent in Quebec, 18 percent on the Prairies, 11 percent in British Columbia and nine percent in the Atlantic area. Less than one-half of one percent of Canadians reside in the two territories.

With a population of 25.4 million and an area of 10 million square kilometers (3.6 million square miles), Canada appears to be vastly underpopulated. However, more than 75 percent of the population reside in urban areas located below the 50th parallel (Figure 1). Within this narrow band, Canada is principally an urban society with a moderate population density. Ottawa, the capital, lies further south than London, Paris, Bern, Bonn, Prague, Vienna, Budapest and Seattle. The vast majority of Canadians live further south than almost all of the inhabitants of the United Kingdom.

# Canadian Population Distribution And Proximity To Major Urban Markets of North America



*Area Containing 90% Of Canada's Population*



*Urban Markets Of 4 Million*



*Urban Markets Of 8-20 Million*

TABLE 1  
POPULATION BY REGION

	Mid- 1981 (000)	Mid- 1986	Average Annual Growth Rate (%)	Percent of 1986 Total
Atlantic	2,234	2,279	0.4	9.0
Quebec	6,438	6,540	0.3	25.8
Ontario	8,625	9,114	1.1	35.9
Prairies	4,232	4,457	1.0	17.6
British Columbia	2,744	2,889	1.0	11.4
Yukon and NWT	67	76	1.9	0.3
CANADA	24,342	25,354	0.8	100.0

Source: Statistics Canada, Demography Division.

TABLE 2  
CIVILIAN LABOUR FORCE - CANADA AND REGIONS

Region	Average Annual Labour Force			Average Annual Growth Rate		Average Annual Employed			Average Annual Growth Rate	
	1976	1985	1986	76-85	85-86	1976	1985	1986	76-85	85-86
Atlantic	803	978	996	2.2	1.8	717	822	844	1.5	2.7
Que	2,689	3,181	3,221	1.9	1.3	2,456	2,804	2,866	1.5	2.2
Ont	3,882	4,787	4,897	2.4	2.3	3,643	4,402	4,555	2.1	3.5
Prairies	1,712	2,263	2,299	3.2	1.6	1,641	2,055	2,096	2.5	2.0
BC	1,117	1,431	1,457	2.8	1.8	1,021	1,228	1,274	2.1	3.7
CAN	10,203	12,639	12,870	2.4	1.8	9,477	11,311	11,634	2.0	2.9

Source: Statistics Canada, Historical Labour Force Statistics, 1986.

(b) Labour Force

The labour force averaged 12.9 million persons in 1986, up 1.8 percent from 1985 (Figure 2). The largest proportion, 38.0 percent, resided in Ontario, followed by Quebec with 25.0 percent, the Prairies with 17.9 percent, British Columbia with 11.3 percent and the Atlantic Provinces with 7.7 percent. Unemployment averaged 9.6 percent (1.2 million) in Canada in 1986, down from 10.5 percent (1.3 million) in 1985. The Atlantic provinces had the highest rate (15.2 percent) and Ontario the lowest (7.0 percent). Quebec and the Prairies had unemployment rates of 11.0 percent and 8.9 percent respectively.

(c) Job Creation

For many years employment in Canada grew faster than in the 23 other industrialized countries which comprise the Organization for Economic Cooperation and Development (OECD). From 1960 through 1980, jobs expanded at an average annual rate of 2.9percent, compared to 2.1 percent in the United States and 1.1 percent for the OECD at large.

Canada retained its leadership in job growth as the 1980s began, but experienced a decline in employment during the 1982 recession. The percentage drop, 3.3percent, was nearly twice the decrease experienced by Germany, the next most severely affected in employment terms of the seven largest industrial economies.

Canada's employment recovery trailed that of the United States and Japan in 1983, and only the United States in 1984. By 1985 and 1986 however, rates of job growth exceeded those of the other large economies. OECD data indicate that Canada's latest employment gains (2.8percent in 1985 and 2.9percent in 1986) outpaced those of the smaller OECD economies as well, excepting Australia. Australia posted employment gains of 3 to 3.5percent in each of the last three years.

At the end of 1986, the absolute number of employed persons in Canada was at an all-time high; 323,000 jobs have been created in 1985-86. From the recession year of 1982 until 1986, a total of 990,000 jobs were created. Forecasters predict that Canadian employment will continue to grow by about two percent annually going into the 1990s.

(d) Standard of Living and Income

Canada's overall standard of living ranks among the highest in the world. Canada, with the seventh largest economy among the western industrialized nations in 1986, ranks high in gross domestic product per capita, behind the United States, Japan and West Germany, but ahead of France, Italy and the United Kingdom.

Canadians are a mobile people. With fair distances between major centres, 77 percent of Canadian households own automobiles. This compares with the US where over 90 percent of households own automobiles. Other western industrial countries such as Japan, France, Germany, and the UK have household car ownership rates of between 60 percent and 70 percent. Canada ranks very high in the percentage of households owning other durable goods such as refrigerators (99 percent), washing machines (76 percent), telephones (98 percent), televisions (99 percent), radios (99 percent) and video recorders (35 percent).

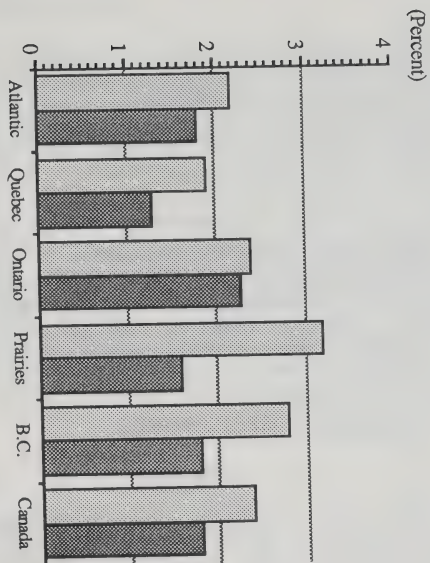
Some 63 percent of Canadian families own their homes, the quality and size of which are among the highest in the world.



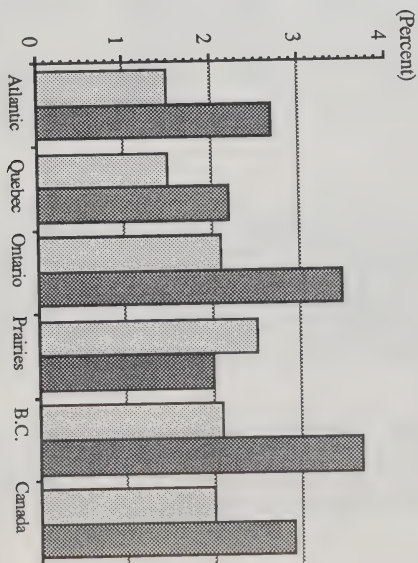
## GROWTH IN

### LABOUR FORCE

 Average Growth 1976-85  
 Average Growth 1985-86



### EMPLOYMENT



Source: Statistics Canada, Historical Labour Force Statistics 1986.

(e) Income

Total personal income rose by 6.9percent in 1986, to an estimated \$429.8billion. Wages, salaries and supplementary labour income made up 63percent of the total, while transfers from government accounted for 15percent. Interest, dividends, and miscellaneous investment income comprised 13percent. Average per capita income rose by six percent in 1986, to \$16,952.

(f) Climate

The Canadian climate is varied, ranging from the temperate on the west coast (cool winters and mild summers) to the continental on the Prairies (cold winters and hot summers). Most populated areas of Canada experience the same climate as that encountered in the northern US. Table 3 compares average temperatures in major Canadian population centres with other major urban centres in the US and Europe.

TABLE 3  
AVERAGE TEMPERATURES

	<u>JANUARY</u>		<u>JULY</u>	
Halifax	-3°C	(27°F)	18°C	(64°F)
New York	-1°C	(30°F)	23°C	(73°F)
Toronto	-5°C	(23°F)	20°C	(68°F)
Chicago	-4°C	(25°F)	23°C	(73°F)
Vancouver	+2°C	(36°F)	17°C	(63°F)
London, England	+4°C	(39°F)	16°C	(61°F)
Frankfurt	+1°C	(34°F)	20°C	(68°F)
Montreal	-9°C	(16°F)	22°C	(71°F)
Paris	+3°C	(37°F)	19°C	(66°F)
Rome	+8°C	(47°F)	24°C	(76°F)

(g) Language

Canada has two official languages, English and French. According to the 1981 census, 61 percent of Canadians spoke English as their mother tongue and 26percent spoke French. A growing number of Canadians speak both languages. The remaining 13percent, while they may use English or French as their working language, have another language as their mother tongue. The province of New Brunswick is officially bilingual, while English is the most widely used language in all provinces except Quebec, which is predominantly French.

In language, customs, income and climate, Canadians are remarkably similar to their northern US neighbours. The similarities are so extensive that it is sometimes difficult to separate market characteristics north and south of the Canada-US border. Together, the US and Canada comprise what is commonly known as the North American market.

1.2 The Canadian Market1.2.1 Atlantic Canada

With a population of nearly 2.3 million and a gross domestic product of \$30.2 billion in 1986, the Atlantic region contributed close to six percent of the nation's gross domestic product. The regional economy is based upon the plentiful natural resources of the forest and the sea and on abundant mineral deposits. The economy is a diversified one in which the value of factory shipments outweighs the total value of farm cash receipts, mineral production, and fish landings. Exports from the region, at \$5.9 billion, accounted for nearly 20 percent of GDP, of which \$3.8 billion, or 64 percent of the region's total exports, went to the US, mainly the Atlantic seaboard states. Wood and paper, fish products, energy, and transportation equipment were the major exports. Given its east coast location, excellent natural harbours and the well-developed transportation infrastructure of airlines, railroads and highways, Atlantic Canada has ready access to the total Atlantic region of North America, one of the most industrialized of world markets, with a population in excess of 47 million affluent consumers.

Major Centres

Halifax, Nova Scotia (population 296,000) is the largest city and leading industrial center in Atlantic Canada. Its major industries include oil refining, shipbuilding, metal works, breweries and fish processing. Halifax has excellent transportation links to North America and world markets. It is the fifth largest port in Canada in terms of international cargo handled, and is open to traffic year round. Other transportation facilities include major freight rail lines and an international airport.

St. John's, Newfoundland (population 161,900) is the largest city in Newfoundland and houses approximately 25 percent of the total population. St. John's has an excellent harbour which provides maritime traffic with access to Europe, the Atlantic US and the rest of Canada.

Saint John, New Brunswick (population 121,300) is another major industrial centre. Major industries include the nearby \$2.7 billion Point Lepreau Nuclear Power Plant, the Saint John Shipbuilding and Drydock Company and Moosehead Breweries. In addition to its proximity to the numerous population centres of the northeastern US, Saint John has the seventh largest port in Canada, and offers year-round, direct access to major world markets. Saint John also has excellent rail and highway facilities which provide access to the rest of Canada and the US.

1.2.2 Central Canada

Central Canada, comprising the provinces of Ontario and Quebec, has a population of nearly 15.7 million and a gross domestic product of \$320.3 billion, or over 63 percent of Canada's total 1986 gross domestic product. It is both the most urban and most industrialized region of Canada. Within the geographic triangle of Quebec City, Sault Ste. Marie and Windsor live some three-fifths of Canada's total population. Approximately 26 percent of its GDP is exported, with over 85 percent of total exports destined for the US market, primarily the Atlantic and midwest regions. Transportation equipment (notably automobiles and auto parts), wood and paper products, metals, minerals and energy are the major exports. The most populated area of central Canada is an industrialized peninsula jutting into the northern US, between the heavily populated Atlantic and midwest regions. Most of central Canada's cities have better proximity to the industrial heartland of the US than major US population centres to the south and west. These Canadian locations are also better integrated into the affluent and densely populated northeastern US in terms of culture, time zones and communications.

Major Centres

Quebec City, Quebec (population of 603,300) is the capital of the province of Quebec and the oldest city in North America. In addition to being the centre of government and a major tourist centre, it houses a wide range of industries including food processing, leather goods manufacturing, and textiles, apparel, wood products, pulp and paper, printing and publishing, non-ferrous metal and chemical products. Quebec City is the seat of the University of Quebec, comprised of 11 campuses around the province. Quebec harbour is one of Canada's busiest seaports, able to accommodate the largest ocean-going vessels year round. In addition, excellent railroad, road and airline facilities provide easy access to the rest of Canada and the US.

Montreal, Quebec (population 2,921,400) is Canada's second largest industrial, financial and commercial centre. It houses the Montreal Stock Exchange. It is also the world's second-largest French-speaking city, a major tourist and cultural centre, with extensive convention facilities. Its principal industries include food processing, clothing and high fashion, paper and paper products, aircraft and aircraft engines, and petroleum refining. Montreal is a location for high technology industries, producing office automation equipment, electronics and communication products, which complement its established manufacturers of avionics, defense products and aircraft parts. Montreal's high calibre universities, colleges, and research institutes are closely associated with industry. The Port of Montreal, open year round, is an integral part of the St. Lawrence Seaway (which provides marine access to the major industrial centres of central Canada and the midwest region of the US). It is the largest eastern port in Canada, and the third largest on the North American east coast in container traffic. Montreal is served by two international airports and has excellent road and rail facilities which provide access to the rest of Canada and the US.



Ottawa, Ontario is Canada's capital. Combined with Hull, Quebec, its population stands at 819,300. It is a high-technology, electronics and telecommunication focal point with over 200 high-tech manufacturers, including Northern Telecom, Mitel and Gandalf Technologies Inc. The National Capital Region is a major tourist centre and has excellent convention facilities. Ottawa has an international airport, and excellent railroads and highways link the area to major North American markets.

Toronto, Ontario (population 3,427,000) is Canada's largest city and the capital of Ontario. It is the country's leading commercial, industrial and financial centre, and houses the Toronto Stock Exchange and the largest number of corporate head offices in the country. It is the hub of an ever-expanding metropolitan area known as the "Golden Horseshoe", extending around the western shore of Lake Ontario from Niagara to Oshawa. Its principal industries include manufacturers of automobiles, aircraft, machinery, electronics, communications equipment, electrical goods, sheet metal products, printing and publishing, meat processing, food and beverage production, clothing and rubber goods. The city's universities and colleges have continuing research links with industry.

Toronto is a major tourist centre and has extensive convention facilities. Excellent transportation facilities, including an international airport, a STOL-port and extensive rail facilities, provide access to all North American markets. The Port of Toronto is part of the St. Lawrence Seaway and is open to international marine traffic from May to October.

Hamilton, Ontario (population 557,000) is a major industrial centre and the steel capital of Canada. Other major industries include heavy machinery, fabricated metals and other heavy industry. It has excellent transportation facilities, including major railways and a port on the Great Lakes shipping system.

### 1.2.3 Prairie Canada

Prairie Canada, which includes the provinces of Manitoba, Saskatchewan and Alberta, has a population of 4.5 million and a gross domestic product of \$94.6 billion in 1986, or approximately 19 percent of the Canada's GDP. The region is endowed with large reserves of mineral wealth (including oil, gas, coal, potash and uranium) and vast fertile plains which are ideal for growing grain and oilseed crops. Oil and gas, with related sectors, play a major role in Alberta's economy. This activity is complemented by agriculture, together with food processing and a range of other manufactured products and services. Alberta's total output exceeds the combined GDPs of Manitoba and Saskatchewan, where manufacturing and agriculture, respectively, have more important roles to play.

Saskatchewan, with rich potash, uranium, oil and gas reserves yet to be fully exploited, is in the process of diversifying its economy and continues to lessen its reliance on its traditional agricultural base.



Manitoba has a fairly strong manufacturing base that includes industries such as food and beverages, chemicals, primary metal manufacturing, metals processing, printing and publishing, farm machinery, textiles and clothing is proceeding with the construction of a large hydroelectric facility that will provide electrical energy for export to the US and for domestic industrial growth. Exports account for nearly 14 percent of regional output, and almost 80 percent of the region's exports (which include energy, fuels, chemicals and wood and paper) are destined for the US. The region is also a major producer of livestock, grains and seed oils, much of which is destined for international export markets.

Major Centres

Winnipeg, Manitoba (population 625,300) is the provincial capital. Its industrial base includes a wide range of manufacturing industries, as well as food processing and distributing businesses. Winnipeg has excellent transportation links to the rest of Canada and the US via its well-integrated network of highways, railroad facilities and an international airport.

Regina, Saskatchewan (population 186,500) is the provincial capital, situated midway between Calgary, Alberta and Winnipeg, Manitoba on the TransCanada Highway. Agriculture plays a major role in Regina's economy, but steel, petroleum refining and potash are other major industries in the area. Regina is also a key distribution centre serving the Prairie provinces, the Northwest Territories and the north-central United States. It has excellent transportation facilities, with airline, road and rail services available to all major cities across Canada and the US.

Saskatoon, Saskatchewan (population 200,700) is one of the fastest-growing areas in Canada, and is a major agriculture center. Other important industries include livestock and meat processing, oil, gas, uranium and coal mining. Saskatoon has emerged as a critical mass area for high technology in the Prairies. Over 150 high technology companies have concentrated around the city, including manufacturers, R&D firms and consultancy/support services. Saskatoon is well-served by the major railway systems, airlines and highways.

Edmonton, Alberta (population 657,000) is the provincial capital and the second-largest oil refining centre in Canada. It is supplied by 12,000 producing wells and serves two major oil sands plants to the north. In addition to oil refining, its principal industries include petrochemicals (including plastics, fertilizers, and man-made fibres), steel tube mills, and meat processing. It has excellent transportation facilities, including an international airport, a second airport in the heart of the city, and a network of highways and railroads.

Calgary, Alberta (population 593,000) is Canada's energy resource capital. Major industries include oil, gas and related energy industry consultants, service and supply companies, data processing, transportation, meat packing and fertilizer production. It is linked to major North American markets by rail, highways, and an international airport.

#### 1.2.4 Pacific and Northern Canada

The Pacific and northern region includes British Columbia and the Yukon and Northwest Territories. This area had a gross domestic product of nearly \$60 billion in 1985, or close to 12 percent of the nation's GDP. British Columbia, with over 97 percent of the total regional population of almost three million, accounts for most of the region's economic activity. Its major sectors include forestry and related industries, mining, other manufacturing, transportation, tourism and business services. British Columbia forests are a vital part of the economy, dependent on the growth of world markets for pulp and paper, newsprint and construction lumber. British Columbia's mineral wealth includes large reserves of copper, molybdenum, silver and gold, which together account for almost one-third of the value of all minerals produced in the region. Other minerals produced include lead, zinc, natural gas and coal. British Columbia's mineral production accounts for 10 percent of the national total in terms of value. Manufacturing is based on British Columbia's natural resources and is heavily oriented to forest products, refined non-ferrous metals and processed fish products. Manufactured wood products and the pulp and paper industry account for about 45 percent of the value of factory shipments. Fishing, especially for salmon, remains an important industry. However, increasingly, the economy is diversifying away from these resource-based industries to new manufacturing industries such as electronic products (which currently employ some 4,200 people) and service industries such as banking and tourism. Transportation is also a key industry. British Columbia's major ports serve as vital transportation links to North American west coast markets, as well as the expanding markets of the Pacific Rim countries. British Columbia is also well-served by domestic railroads to the Canadian interior and US railroads on the American west coast. Exports account for over 26 percent of British Columbia's gross domestic product of \$56.5 billion, with more than 40 percent of total exports destined for US markets. Major exports include wood, paper, metals, energy, and a variety of fully manufactured products.

#### Major Centres

Vancouver, British Columbia (population 1,380,700) is Canada's major international cargo port. Among the products handled are grain, timber, coal, mineral ore, chemicals, and manufactured goods. Vancouver has a major international airport, and is the western terminus of Canada's two national railways. The TransCanada Highway connects to eastern Canada and interior British Columbia, as well as major north-south routes.

Whitehorse, Yukon (population 14,860) is the capital of the Yukon Territory. The city is a major communications centre for the surrounding area. Leading industries are mining, oil and gas exploration, refining, hydroelectric power, forestry and small-scale agriculture. Whitehorse is connected by air and highway to northern Pacific and prairie centres, including Edmonton, Alberta and Fairbanks, Alaska.

Yellowknife, Northwest Territories (population 11,500) is the capital of the Northwest Territories. The city and its surrounding area are rich in raw materials such as gold and other minerals, fish, fur and gravel. Yellowknife is also a base for oil and gas exploration activities in the Arctic. The city is served year round by regional air carriers.

### 1.3 Overview of Major Industrial Sectors

#### 1.3.1 Agriculture

Reflecting a slow rate of real growth (0.9percent per year from 1976 to 1986), the agricultural sector's share of real domestic product has decreased from 3.8percent to 3.2percent in 1986, and is expected to continue to decrease as a proportion of total domestic output.

Ontario, the province with the largest total farm income, is the main producer of corn (maize), fruits, vegetables and tobacco. Oats, barley, wheat and oilseeds are important crops of the Prairie (western) provinces. Wheat accounts for 60percent of total grain sales. 74percent of Canada's grain production is exported.

Sales of cattle, hogs and dairy products are expected to show moderate real growth. Prairie grain production has the capacity to expand, but is heavily dependent upon world export markets in the face of widely subsidized oversupply.

#### 1.3.2 Fisheries

Even though fisheries (including trapping) represent less than 1/6of one percent of Canada's real domestic product, Canada is the world's largest exporter of fish. The industry supports more than 83,000 full- and part-time fishermen. Primary catches are cod, haddock, flatfish, scallops, lobster and crab on the Atlantic coast, herring and salmon on the Pacific coast, and whitefish and perch in the inland waters. Increasing world population and growing health consciousness should sustain or increase demand for Canadian fish in world markets at a time when relative costs of other protein sources are in fact decreasing.

#### 1.3.3 Forestry

Forestry,, largely composed of logging, accounted for approximately 7/10ths of one percent of Canada's real domestic product in 1986. Of the 4.4million square kilometers of Canadian forest, more than 80percent is owned and leased to private companies by provincial governments and 60percent is classed as productive.

Forest products are Canada's largest net earner of foreign exchange. Canada exports 85percent of its newsprint shipments and some 35percent of its pulp shipments, primarily to OECD countries, which take almost 95percent of Canadian forest product exports.

#### 1.3.4 Mining and Energy

Mines, quarries and oil wells contributed 5.3percent of Canada's real domestic product in 1986. The industry consists of three main segments: metal mining (22.8percent of the mining trade), non-metal mining (5.3percent), and mineral fuel production (60.8percent).

Canada is the world's leading producer of nickel, zinc and uranium, and the world's largest exporter of minerals overall. Other major ores mined in Canada include copper, lead, iron, uranium, gold and silver.

Non-metal mining is mainly composed of asbestos, potash, clay, cement, limestone and gravel production. Canada is the world's leading exporter of both asbestos and potash.

Reserves of mineral fuels such as oil, natural gas, coal and uranium are abundant. The province of Alberta accounts for the majority of the nation's crude oil output. However, discoveries off Atlantic Canada have potential for significant development.

Natural gas sales have depended on the domestic and US markets, while the US is in a surplus position. With deregulation, sellers face a very competitive market. The Canadian government and several provincial governments are actively encouraging the substitution of natural gas for oil. Consequently, gas pipeline distribution systems have undergone rapid expansion, especially in central Canada.

The increase in coal-fired electric generating plants in Alberta, Saskatchewan and Nova Scotia should increase the demand for and production of coal. At the same time, coal exports to Japan are expected to reflect the levelling off of Japanese demand for coking coal.

The sale of uranium and other nuclear products is regulated by the Atomic Energy Control Board (AECB) to ensure non-military use. Canada is a world leader in nuclear technology and has developed the CANDU nuclear reactor. Most uranium and other processed nuclear products are exported. The abundance of inexpensive hydroelectricity in British Columbia, Manitoba and Quebec has restricted domestic demand for nuclear power generation.

#### 1.3.5 Manufacturing

Manufacturing accounted for 18.5percent of Canada's real domestic product in 1986. The manufacture of machinery, chemicals, transportation equipment, and high technology communications and data processing equipment has shown the greatest potential for growth in this area.



Advanced technology industries such as factory automation systems, avionics and aerospace, videotext systems, word processors, telephone and data switching devices, laser technology, fibre optics and microprocessors have experienced rapid growth in recent years. Some of the more prominent participants are Northern Telecom and Mitel Corp., major manufacturers of telecommunication products including PBXs; AES Ltd. and Micom Co., manufacturers of word processors; and Gandalf Technologies Inc. and Develcon Electronics Ltd., manufacturers of data communications equipment.

The dominant feature of the Canadian plastic and chemical industries during this decade was the expansion of the natural gas petrochemical industry in Alberta. Export markets have been developed in the US, Japan and Europe for ethylene and derived resins, polymers and plastics. Novacor has recently announced the intent to build a world class ethylene plant in Alberta.

Growth in the transportation equipment industries has been strong. In 1984, transportation equipment accounted for nearly 41 percent of Canada's exports to the US. Motor vehicle and parts manufacturers, mainly in central Canada, account for nearly three-quarters of this sector's volume output. The expansion of rapid transit systems throughout North America is providing increased sales for manufacturers of urban transit systems such as Bombardier, Hawker-Siddeley and the Urban Transit Development Corp. VIA Rail is rebuilding its passenger rail equipment.

#### 1.3.6 Detailed Manufacturing and Mining Sectoral Information

Data up to 1986 on 26 major industrial sectors, with comparisons to total manufacturing or mining, is shown in Appendix I. The data covers the size of the sector in terms of shipments, employment, regional concentration and domestic and export markets. Also included is information on levels of capital investment, profitability, the major firms and the degree of non-Canadian ownership. Other useful information is provided on the role of government, industrial relations, research and development activities, and current productivity.

Sectoral statistics are officially published according to definitions of the 1960, 1970 and 1980 Standard Industrial Classification. In Appendix I all data has been presented consistently in terms of the 1980 classifications, and in most cases goes up to 1986.

#### 1.3.7 Transportation

Transportation and storage accounted for 5.1 percent of real domestic product in 1986. Major modes of transportation in order of real value added are: trucking (28.1 percent), rail (16.5 percent), airlines (12.4 percent), pipelines (8.2 percent), and marine shipping (6.2 percent). Other transportation services, including urban and intercity transit and storage, are responsible for the remaining activity.



While a number of railroads operate in Canada, the privately-owned CP Rail (Canadian Pacific Railway) and the government-owned CN Rail (Canadian National Railway) generate the bulk of the railroad revenues. The 95,000-kilometer (59,000-mile) railway system is an efficient means of bulk transportation and is fully integrated with the rail networks of the US.

Marine transportation in Canada is served by 25 major deepwater ports and more than 700 smaller ports. The St. Lawrence Seaway allows marine traffic to reach central Canada and the midwest and prairie regions of the US. The Port of Vancouver is Canada's largest in terms of tonnage of international trade goods, with 51.9 million tonnes (57.1 million tons), or 37 percent of Canada's total shipping tonnage. This traffic is growing rapidly as trade in bulk commodities to Pacific Rim countries increases. Montreal is the most important Atlantic port and is the third largest container port on the North American Atlantic coast.

The recently deregulated trucking industry, which employed over 92,000 in 1984, benefits from a highly-developed network of highways that is fully integrated with the US. In 1984, there were 145,000 trucks for hire, which travel the 271,417 kilometers (168,687 miles) of Canadian roadways. The industry is expected to experience significant growth during the coming decade as Canadian manufacturers seek to serve new markets south of the border.

Canada's 60 major airports handle regular traffic from 35 foreign airlines. Domestic carriers fly to all the principal cities of Canada and the world. The three main Canadian carriers, which generate most of the industry's revenues, have both domestic and international operations. More remote regions (north of 60 degrees) are served by commercial carriers, using more than 250 small airports.

A network of pipelines transports oil and natural gas to the major North American markets. Most current pipeline investment is concentrated in the far north and the western provinces. Planned extensions of natural gas pipelines to eastern Canada will connect the country from coast to coast. There are also plans to construct gas pipelines to specialized liquid natural gas (LNG) ports on the British Columbia coast to serve export markets in Pacific Rim countries.

### 1.3.8 Communications

Communications compose a small but vital part of the economy (3.3 percent of real domestic production in 1986). The industry consists of three subsectors. Telecommunications carriers comprise 75 percent of the total value added in real terms for the communications sector. Telephone systems are in turn the main component of the telecommunications carriers. Radio and broadcasting account for a further 15 percent of the sector, and postal and courier services, 10 percent. The industry is dominated by relatively few large companies and is extremely capital intensive. Bell Canada supplies telephone service to over 62 percent of the Canadian population in Ontario, Quebec and the Northwest Territories.

Canada is a recognized leader in the development of communications technology and has one of the world's most sophisticated communications networks, including fibre optic cable, cellular mobile telephones and satellites. Currently, there are 16 million telephones, with a direct dialing service across Canada and to some 140 other countries. Technological leaders such as Bell Northern Research (Bell Canada), Mitel Corp. and Trillium Telephones develop and incorporate the latest technology into their products. In addition, there are 698 radio stations and 132 television stations, supplemented by 852 and 1,350 radio and television rebroadcasting stations.

As a result of the trend toward automated offices with telephone-linked word processors and workstations, the volume of long-distance telephone calls is rising by 10 percent per year. Telephone companies are expected to experience real annual growth throughout the decade.

Overall, the communications industry should realize substantial growth for the remainder of the decade.

#### 1.3.9 Utilities

Canada has abundant hydroelectric capacity. Two of the largest hydroelectric complexes in the world, the Churchill Falls and James Bay projects, produce 12 to 15 million kilowatts of electricity, much of which is currently exported to northeastern US markets.

Electric power and natural gas distribution accounted for 85 percent and nine percent, respectively, of the output of the utilities industry, which in turn accounts for 3.2 percent of real domestic output. Demand for these forms of energy will continue to increase as Canada moves away from petroleum products, especially for heating.

#### 1.3.10 Distribution Trade

In 1986 wholesale and retail trade together accounted for 11.4 percent of real domestic product. Canada has an extensive system of goods distribution, though many sales are made on a direct basis from producers to users. Retail trade accounts for 57 percent of the trade sector overall, and has shown rather faster growth in recent years compared to wholesaling.

#### 1.3.11 Other Services

A further 42.8 percent of real output in 1986 consisted of a broad variety of private and public services. Profit-based activities comprise about three-fifths of the Other Services group, and non-commercial services the remainder.

By far the largest component of the Other Services group is finance, insurance and real estate, with 35 percent of the total. A range of community and personal services follow (15 percent), matched in size by government administration. Education and health/social services account for a further 13 percent each, while a key range of business services make up the remaining eight percent.

Above-average real rates of increase have marked personal, leisure and health services, together with financial services, over the 1981-86 period. Total expansion since 1981 has been over 20percent compared to 16percent for the Other Services group at large.

#### 1.4 Summary

##### 1.4.1 Market Similarities

Many international companies, such as Toyota, Siemens, Ikea, Volvo, Pechiney and Olivetti, have established in Canada to serve Canadian, North American and world markets from this central location. US firms such as Westinghouse, United Technologies and Litton Industries have specialized operations in Canada from which to serve world markets. Investors in Canada who are specifically interested in the North American market benefit from the similarity between the Canadian and American markets. Such investors profit from the physical proximity, similar business practices, common language, shared time zones and liberal bilateral trade agreements (like the Auto Pact) between the two countries. Thousands of Canadians and Americans travel each day to each others' country without the need for a visa or passport. By 1987, 80percent of Canada's exports to the US will be duty-free, while an additional 10percent will carry a duty of less than five percent.

##### 1.4.2 The Connection to Regional North American Markets

In many ways, forces at work throughout Canada create substitute a north-south rather than an east-west flow of trade. Perhaps the strongest force is proximity (see Figure 3). The average resident of Winnipeg will more likely have travelled to Minneapolis, than Toronto or Montreal. Community of interest also encourages the development of this north-south flow. The economic base of Manitoba is more similar to that of North Dakota and Minnesota than it is to that of southern Ontario. Additionally, the east and west coasts have only four hours of common business time daily, while neighbours to the north or south share the full business day. New technological forces, such as easy access to telecommunications and the expansion of powerful television and radio broadcasts, are breaking down barriers and promoting the growth of north-south dialogue. Political and economic forces, such as multilateral or bilateral trade agreements designed to eliminate trade barriers, are also encouraging the development of a north-south trade and integrated regional markets. Investors who wish to serve the North American market do well to give serious consideration to the advantages of a Canadian location as a means of access to the North American markets.

## 2 THE CANADIAN PRESENCE IN THE NORTH AMERICAN MARKET

### 2.1 The Major Regions

Canadian exports to the US are a significant element in the largest trade flow between any two nations. The integration of the Canadian and US markets can be seen clearly in the development of four regional north-south markets: the Atlantic, the Midwest, the Prairie and the West Coast - which together purchased some \$90.3 billion of Canadian goods and services, or 96 percent of total Canadian exports to the US in 1986. (Table 4, Figures 3 and 4)

#### 2.1.1 The US Atlantic Region

This region includes Connecticut, Delaware, District of Columbia, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia and West Virginia.

Total Canadian exports to the region in 1986 were some \$34.7 billion, of which some \$21.7 billion were destined for New York, Massachusetts and Pennsylvania. Exports to the region consisted mainly of transportation equipment, other industrial manufactured goods and consumer goods (\$15.0 billion), and fabricated materials (\$15.4 billion). Central Canada supplied the Atlantic region with some \$26.5 billion's worth of the goods and services, while Atlantic Canada supplied \$2.8 billion (approximately 90 percent of the latter region's exports to the US).

The Atlantic region of the United States has a varied industrial and commercial economy. It includes the high-technology industries of Massachusetts, the financial and commercial service industries of New York City and the oil-refining, petrochemical, steel and defence industries of Pennsylvania, Delaware and Maryland. The region also has a population of over 91 million enjoying one of the highest standards of living in the world today. Average per capita personal income in 1986 stood at US\$16,178 compared to the US national average of US\$14,443. From central Canada, much of this region is accessible within one day by truck and rail (Figure 2) and within two to three hours by air. From Atlantic Canada, marine freight and trucking services provide quick and efficient access.



TABLE 4  
DOMESTIC EXPORTS TO US BY REGION AND PRODUCT - 1986

	<u>US Atlantic</u>	<u>US Midwest</u>	<u>US Prairie</u>	<u>US West Coast</u>	<u>US Other</u>
	\$ (millions)				
By product:					
Live animals	43.0	64.1	92.2	102.4	5.7
Food, beverages, and tobacco	3,478.3	775.4	114.7	494.3	50.4
Crude materials, inedible	1,778.6	2,609.2	1,913.2	1,704.5	219.6
Fabricated materials, inedible	15,424.5	8,085.5	2,150.0	2,839.3	1,421.1
End products, inedible	14,978.2	26,278.4	2,026.8	2,828.6	1,558.7
Special transactions <sup>1</sup>	30.9	40.5	9.7	34.4	145.0
Total domestic exports	34,733.5	37,853.1	6,306.7	8,003.5	3,400.5

	<u>US Atlantic</u>	<u>US Midwest</u>	<u>US Prairie</u>	<u>US West Coast</u>	<u>US Other</u>
	(\$ millions)				
By region:					
Atlantic Canada	3,439.6	184.9	30.2	48.2	73.6
Central Canada	28,331.0	33,530.9	2,533.5	2,771.6	2,598.9
Prairie Canada	1,363.6	3,405.1	3,291.3	2,278.0	378.1
Pacific Canada	1,629.3	732.2	451.6	2,905.7	350.0

<sup>1</sup> Includes non-reusable packaging and contractors' tools and equipment which are intended to return to Canada upon completion of a project.

Source:

External Affairs Canada, Canadian Domestic Exports to Individual US States



### 2.1.2 The US Midwest Region

Illinois, Indiana, Kentucky, Michigan, Ohio, Tennessee, Wisconsin.

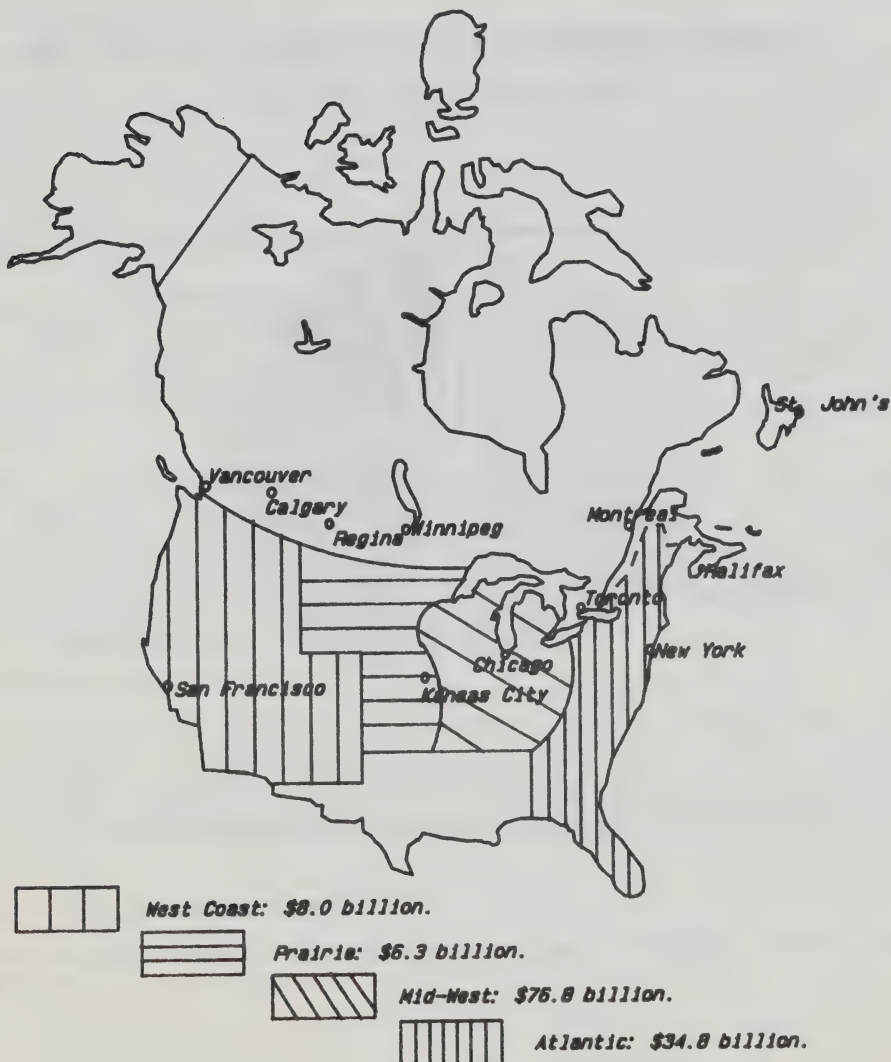
#### Overview and Industrial Base

The US midwest has a population of 50million people. Its varied economic base includes agriculture, manufacturing, mining and service industries. It includes the second largest urban market in the US (Chicago, Illinois). Fully two-thirds of the total US GNP is produced within an 800-kilometer (500-mile) radius of Illinois. This state is second only to New York as a headquarters location for Fortune 500 companies. Illinois is the centre of the largest industrial market and the second largest consumer market in the US. Major industries concentrated in Illinois include primary and secondary metals, industrial and farm equipment, electrical equipment and appliances, electrical components, food processing and printing equipment. In addition, agriculture is important, and soybeans, corn, dairy products and hogs are major products. The region also includes the metropolitan Detroit area, headquarters of the American automobile industry. This industry accounts for roughly 40percent of the total manufacturing activity of the region. Other major industries include machine tools, foundry products, metal stampings, drugs and chemicals.

#### Canadian Penetration

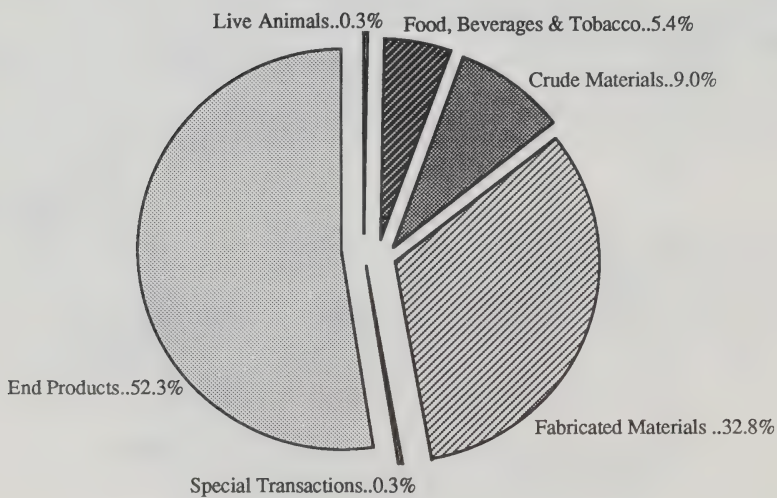
The US midwest purchased \$37.9billion in goods and services from Canadian-based companies in 1986. Of this total, central Canada supplied \$33.5billion, the Prairies supplied \$3.4billion, and the Atlantic provinces and British Columbia provided the balance. Transportation equipment made up \$23.9billion (63percent) of total exports to the midwest, and fabricated materials accounted for a further \$8.1billion (or 21.4percent).

# Penetration of U.S. Regional Markets - 1986



## DOMESTIC EXPORTS TO UNITED STATES BY PRODUCT: 1986

(Total Exports to United States...\$91.2 billion)



Source: External Affairs Canada, Canadian Domestic Exports to Individual U.S. States.

### 2.1.3 The US Prairie Region

Idaho, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota and Wyoming.

#### Overview and Industrial Base

The US prairie region has a population of approximately 20 million people, and average personal income per capita of US\$13,900. It is the smallest of the four regional markets, with Canadian exports totalling \$6.3 billion. The industrial activities of Minnesota and Iowa dominate the region. It is rich in natural resources, agriculture and high-technology industries. Its diversified economy includes a wide variety of manufacturers of machinery, fabricated metal products, food products, primary metals and chemicals. In the resource field, Minnesota has about 70 percent of the nation's iron ore mines, which are located near the Canadian border. Forest lands covering the northern portion of the state supply a significant pulpwood, paper and lumber industry.

Agribusiness is a key industry in Minnesota and Iowa. Minnesota's food processing giants include General Mills Inc., Pillsbury Co., International Multifoods Corp. and the Green Giant Company. Approximately eight of 10 workers in Iowa depend directly or indirectly on agriculture for employment. Manufacturing activities in Iowa consist mainly of food processing, agricultural machinery manufacturing and wood products production.

Industry has been slow to develop in the Dakotas, Montana, Idaho and Wyoming. Remoteness from major markets and the resulting high transportation costs, together with the small labour force, have lessened the area's appeal as a location for manufacturing firms. The pre-eminent industries are those involved in the processing of raw materials from farms, forests and mines. Food processing, lumber and wood products, smelting and mining of ferrous metals and oil-refining industries account for the majority of economic activity.

#### Canadian Penetration

As outlined in Table 4, the Prairie provinces were the major Canadian exporters to the region, supplying some \$3.3 billion of a total \$6.3 billion from all of Canada. Central Canada supplied approximately \$2.5 billion, and Pacific Canada some \$452 million. Crude materials made up \$1.9 billion of the exports, while fabricated materials and end products made up \$2.2 billion and \$2.0 billion respectively, followed by crude materials at \$1.9 billion.

### 2.1.4 The US West Coast Region

Alaska, Arizona, California, Colorado, Hawaii, Nevada, New Mexico, Oregon, Utah, Washington.

Overview and Industrial Base

The west coast region, which runs south from Alaska to California and as far east as New Mexico in the south, is a large geographical territory with an affluent population of more than 46 million. California is the dominant economic force in the region, with heavy emphasis on the aerospace, electronics and film production industries, not to mention the highest agricultural output of any state. Average personal income per capita at US\$15,401 exceeded the average for the United States as a whole (\$US14,443).

The heart of the American aerospace industry, California, receives about 20 percent of US defence procurement funds and about one-third of all research and development contracts. The National Aeronautics and Space Administration directs half of its expenditures to California. In addition, aeronautical manufacturers and suppliers including McDonnell Douglas, Northrop Corp., Lockheed Corp., General Dynamics Corp., Rockwell International Corp., Boeing Co. and Grumman Corp. are located in California. The Canada-US Defence Production Sharing Agreement, and offset obligations resulting from Canadian Armed Forces procurements, presents a significant opportunity for qualified Canadian-based suppliers of high-precision, mechanical, electrical and electronic components and assemblies.

The electronics industry has experienced rapid growth in San Francisco, Los Angeles, and San Diego. The industry has also expanded to Arizona; Motorola Corp., Honeywell Inc., ITT Corp., Intel Corp. and Digital Equipment Corp. are based in Phoenix. With the development of new, more sophisticated electronic systems, these markets are expected to grow significantly over this decade. It is anticipated that the growth markets will include medicine, banking, satellite communications networks and consumer electronics. Expansion will also be felt in the areas of computers, communications and software technology, coupled with strength in the semiconductor industry.

In recent years, the mainly resource-based economy of Washington and Oregon has generally reflected the recession in the US, although there has been some diversification into secondary manufacturing. The strength of the two states has come from the electronics sector, road and rail transportation equipment, construction equipment, marine industries (commercial and recreational) and food processing.

Manufacturing has played an important role in Utah and Colorado for the past 15 years. The industry's structure has changed greatly, leaning more and more towards sophisticated areas like military/space equipment, electronics and pharmaceuticals. Agriculture remains an extremely important industry for Colorado and Utah, as the requirement for farm products grows both domestically and abroad.



### Canadian Penetration

Exports of \$8.0billion in 1986 were split among fabricated materials and end products (each \$2.8billion), crude materials (\$1.7billion), and other exports (\$631 million). Pacific Canada generated the highest level of export trade with \$2.9billion, followed by central Canada with \$2.8billion and the Prairie provinces with \$2.8billion (Table 4).

## 3 CANADA: AN INTEGRAL PART OF THE NORTH AMERICAN MARKET

### 3.1 The Canadian Location

Proximity, time zones, and common linguistic and cultural ties have created several regional economic markets in North America following a north-south flow. During the last 100 years, the natural community of interest between populations north and south of the border has resulted in the growth of a North American market in which Canada and the US have become each other's best customer. Exports to the US account for approximately 77percent of total Canadian exports. Similarly, about 68percent of Canadian imports come from the US.

### 3.2 North American Market

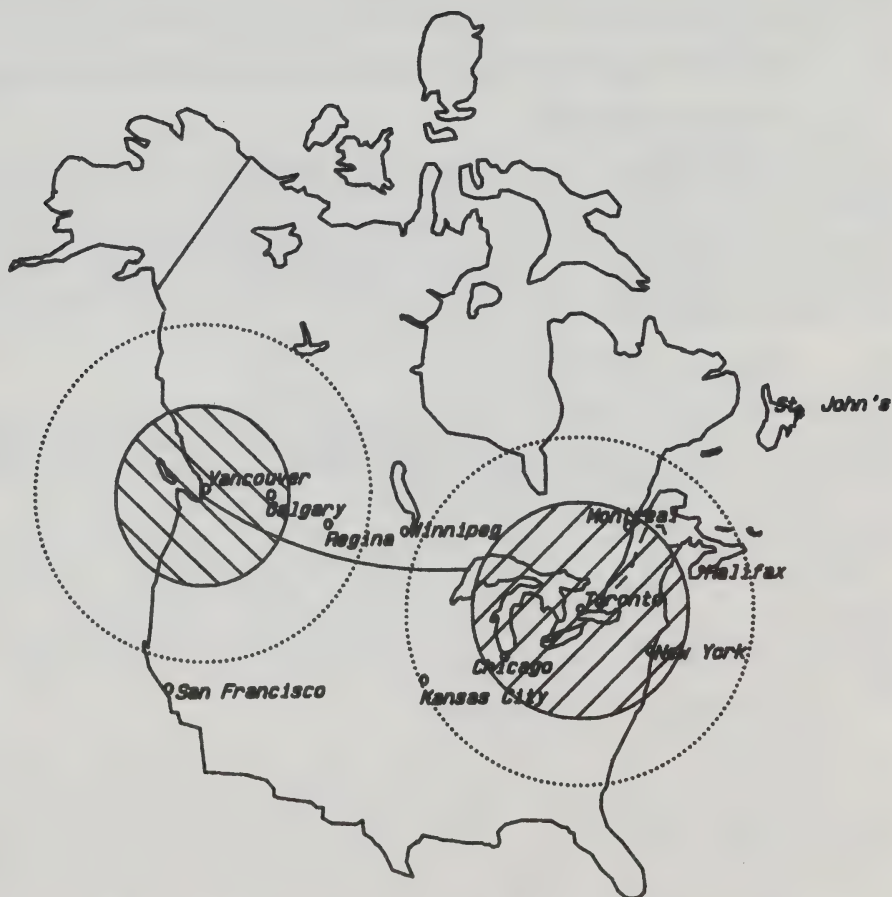
Many major American business centres, including Seattle, Minneapolis, Chicago, Philadelphia and New York, are within one day's trucking distance of Canada. Countless other US cities, such as San Francisco, Denver, Kansas City and Nashville are only two days away by truck (Figures 5A and 5B).

The Canadian and US markets are so integrated that the four regional north-south markets account for nearly all of the two-way flow of Canada-US merchandise trade. The total flow amounted to \$168billion on a customs valuation basis, and is forecast to increase in future years. For example, the US Atlantic region imported nearly \$35billion of Canadian goods, the Midwest region absorbed nearly \$38billion, the Prairie states over \$6billion and the Western region some \$8billion. (See Table 4.)

### 3.3 Development of Duty-Free Trade

The north-south flow of goods within the North American regional markets has grown substantially in recent years. This is partly the result of bilateral agreements such as the Canada-US Autopact and the Canada-US Defence Development and Defence Production Sharing Arrangement. These two agreements essentially remove all tariff and non-tariff barriers on Canadian-manufactured auto products and defence-related equipment entering the US. Canada and the US are both signatories to and supporters of the General Agreement on Tariffs and Trade (GATT), which has provided a multilateral forum and agenda for the removal of tariff barriers. Under existing GATT Agreements, by 1987 approximately 80percent of Canada's exports to the US are scheduled to be duty-free. An additional 10percent of Canadian exports will carry a duty of less than five percent. In essence, tariffs raise few, if any, barriers to Canadian exports to the US.

# Access to North American Markets



## Western Market

1 Day Trucking: 12 million.  
Victoria, Seattle

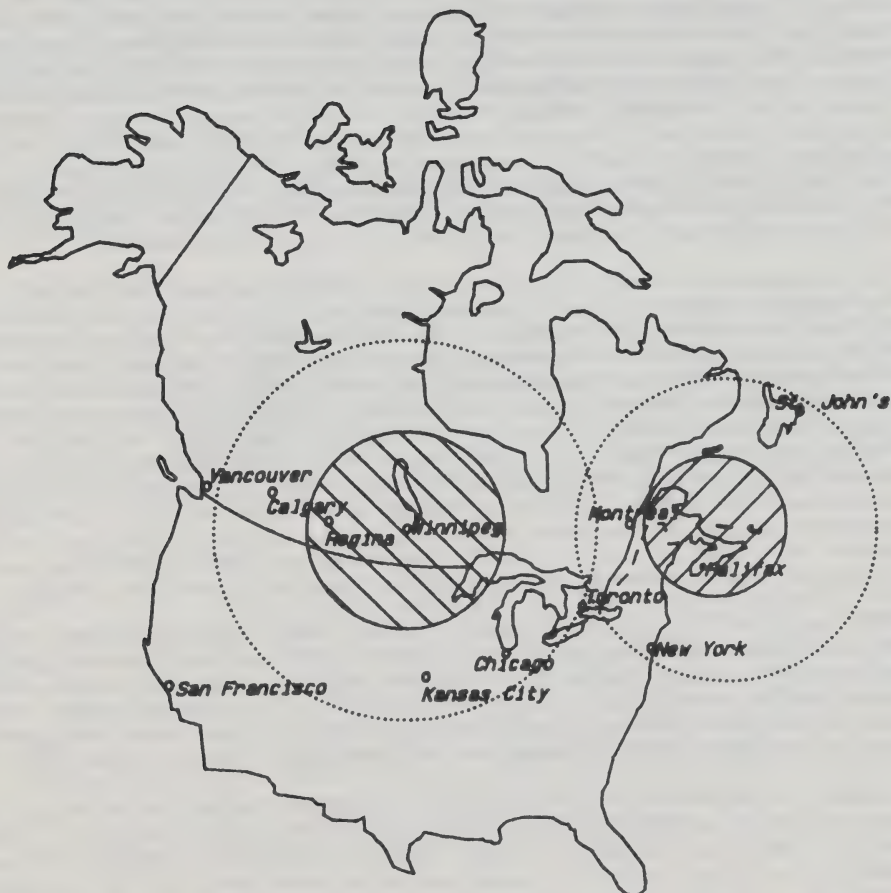
2 Days Trucking: 25 million  
Calgary, San Francisco,  
Salt Lake City

## CENTRAL MARKET

1 Day Trucking: 103 million.  
Chicago, New York, Boston,  
Washington, D.C.

2 Days Trucking: 164 million.  
Minneapolis, St. Louis,  
Nashville

# Access to North American Markets



## Mid-West Market



1 Day Trucking: 16 million.  
Regina, Bismarck,  
Minneapolis, Thunder Bay



2 Days Trucking: 64 million.  
Denver, Kansas City,  
Chicago, Detroit

## Eastern Market



1 Day Trucking: 3 million.  
Quebec City, St. John,  
Portland



2 Days Trucking: 47 million.  
New York, Boston  
Montreal, Philadelphia

### 3.4 Reaching the North American Market Through Joint Ventures and Licensing

Over the years, Canadian-based businesses have learned a good deal about the North American market through a combination of technological leadership and/or investment in marketing and distribution systems. Among the most prominent Canadian companies in the US market are Northern Telecom and Mitel in telecommunications; McCain Foods and the Weston Group in food processing and distribution; Bombardier in transportation equipment; Genstar and McMillan-Bloedel in building products; and Olympia and York in real estate development. In addition, non-Canadian-controlled companies are increasingly serving the North American market through Canada. In automotive parts, such companies as Michelin Tire, Toyota and Hyundai all have established Canadian plants to manufacture parts for North American or world markets. In the expanding office automation sector, such non-Canadian companies as Philips (through its subsidiary Micom) and Xerox, as well as Canadian companies such as AES, are manufacturing in Canada for North American and world markets.

The development of such North American market expertise and leadership in technology are important because many investors are moving towards more flexible and pragmatic forms of market access, such as joint ventures and licensing agreements. While such arrangements are not new, they are increasingly common throughout the western world. As product development costs soar, product cycles shrink, and cost advantages become pronounced, and as more firms forsake purely domestic markets to compete in world markets, investors are increasingly seeking ways to penetrate large markets and lower their costs and risks. The establishment of wholly-owned subsidiaries to accomplish these missions is losing favour. Joint venture and licensing arrangements with domestic firms with complementary technology and well-established distribution systems are becoming increasingly common. Joint ventures such as those between AT&T and C.Olivetti Inc., AT&T and Philips, and Sony and Philips to develop, manufacture and market each other's products are becoming increasingly common.

With merging technologies, corporations are learning that it is often more advantageous to develop international standards in co-operation with manufacturers of peripheral equipment, to ensure compatibility and wide market acceptance, than to fill by themselves all the equipment needs of the users. For example, Northern Telecom together with Sperry-Univac, Digital Equipment Corporation and others have agreed to develop their differing products using the same technology to ensure compatibility.

Canada is attractive to foreign licensors for a variety of reasons. First, Canada does not require any registration or public disclosure of licences. Secondly, exclusive licences, which are prohibited by many countries, are not prohibited in Canada. Thirdly, Canada does not have exchange controls or other restrictions on the payment of royalties. Finally, Canadian licence agreements are treated as any other commercial contract and benefit from the well-defined and long-established legal rights that such contracts have won in the courts of law.



Consequently, numerous opportunities exist for emerging international corporations to reach the North American market rapidly and inexpensively through joint ventures or licence arrangements with Canadian businesses. The latter have well-developed North American market expertise and market recognition as purveyors of high-quality and advanced technology equipment and services. Among the many examples of such arrangements are the recent announcements by Magna International Inc., Fleet Aerospace Corp., Denison Mines Ltd., Fathom Oceanology Ltd. and others to form joint ventures with non-Canadian corporations in varied sectors such as automotive parts manufacturing, helicopter manufacturing, coal mining and ocean research.

### 3.5 Comparative Advantages:

A Canadian location offers many investors lower input costs that make exports of Canadian-manufactured goods and services very competitive in the thriving North American market.

#### 3.5.1 Exchange and Labour Costs

The steady devaluation of the Canadian dollar vis-à-vis the US dollar has tended to increase the level of north-south trade in recent years. Currently, the Canadian dollar is worth only 75percent of the US dollar, a rate indicated as appropriate earlier in 1987 by the Governor of the Central Bank. This has reduced comparative labour costs and other input costs. While nominal Canadian labour costs often appear comparable to those in the US, once the exchange rate is computed, the labour costs in Canada can be significantly lower. In addition, the government-supported health care system and pension plans in Canada contribute to a reduction in employee benefit costs.

#### 3.5.2 Lower Energy Costs

Electrical power costs in Canada (January 1986) for industrial users in the largest urban centres ranged between \$15,000 and \$20,000 per basic 400,000 KW monthly consumption. Comparisons by the Montreal Urban Community show that Canada's three largest cities enjoy the lowest comparative electricity costs. Next lowest internationally is Paris, almost 70percent higher for industrial usage than Montreal. Costs in Boston and Dallas are about double those in Montreal. Industrial users in New York would expect costs about 3.75 times those in Montreal, while users in Tokyo face a differential of approximately 4.25. In recent months, large industrial concerns such as Pechiney and Hyundai have chosen to locate manufacturing operations in Canada to serve North American and world markets, taking advantage of the lower cost of Canadian energy. (See chapter on "Energy" for more detail.)



### 3.5.3 Competitive Tax Rates

Taxes throughout North America are generally consumption (sales) and income taxes, as opposed to the value-added taxes prevalent in Europe. Rates of taxation vary according to province or state, type of industry and income level. No level of government in Canada imposes the unitary tax system that exists in several US states.

The field of taxation is extremely complex and varied, and depends upon factors that are constantly changing. Direct comparisons of taxation costs cannot be made without detailed and specific information. Despite this, there is wide recognition, and acceptance in principle by all levels of government, that taxation costs north of the border must be competitive with those in the US. This helps Canada to maintain and increase its attractiveness as a location for existing and new businesses.

### 3.5.4 Co-operative Business Environment

Perhaps the greatest advantage of a Canadian location is the government's commitment to co-operate with the business community to make sure that Canadian-based businesses suffer no comparative disadvantage.

Canadian governments have closely monitored the business environment, and, in recognition of the existence of barriers to enterprise, have developed a number of responses to overcome these barriers. Programs offered by the federal, provincial and even some municipal governments range from financial loans, grants and equity participation, to tax and duty remission, to employee relocation and training.

### 3.5.5 A Better Quality of Life

No investment decision can be reached without looking at the quality of life that both the investor and the employees must live with daily. Canada is renowned for its stable political and financial systems. The rights of the individual, property owner, and investor are safeguarded. All investors, regardless of country of origin, have equal access to the legal system and can repatriate their capital or profits at any time, since Canada operates an open economy without any exchange controls. Canadians also enjoy a high standard of living at costs which, in numerous independent studies, have been found to be significantly less than such countries as the US, Italy, the United Kingdom, Switzerland, Sweden and Japan. Canadians have universal access to very high-quality education and health care. Social security, moreover, ensures minimum standards for the underprivileged in society. Canadians enjoy a low crime rate, compared to similarly developed countries. In addition, Canadians not only tolerate but encourage a multicultural environment, in which citizens of various ethnic origins can preserve their heritage.

3.6 The Canadian Edge: A Review of the Benefits

No investment decision can be made without reviewing the facts.

- Canada is an integral part of the North American market whose population is over 266 million. Extensive road, rail, marine and air transportation networks link many North American points.
  - Over 151 million people are within one trucking day of the Canada-US border;
  - About 60 million more are within two trucking days, and
  - Over 52 million more are within three trucking days.
- Canada has one of the most advanced communications infrastructures in the world, including satellites, microwave, radio, fibre optic and wired systems, designed for the computer age, and capable of transmitting and receiving large volumes of data.
- Canada offers competitively-priced exports to the US, made possible by a favourable exchange rate and low energy costs. Investors can also find reasonable labour costs and tax rates in Canada.
- Canada has the seventh largest economy in the western industrial world. In 1986, 27 percent of Canadian production of goods and services was exported (75 percent of Canada's exports go to the US).
- Canada has an enviable quality of life characterized by a high standard of living, universal access to health care and education, low crime rates and a clean environment. In Canada ethnic differences are cherished and blended into a multicultural mosaic.
- Canada has secure and abundant supplies of strategic resources, including oil, natural gas, electricity and coal.
- Canada has significantly lower prices for electricity than in the US, and is competitive in natural gas. Electricity for industrial use in Toronto, Vancouver and Montreal costs, for example, 70 to 75 percent less than in New York, about 60 to 70 percent less than in Los Angeles, and 55 to 65 percent less than in Chicago.
- Canada is a net exporter of oil, natural gas and electricity to the US and exports significant amounts of metallurgical coal to Japan.
- Canada has stable energy prices.
- Canada encourages joint ventures and licensing arrangements.
- Canada has a strong, diversified industrial base.

- Canada has lower labour costs than the US.
- Canada has a well-trained and committed pool of workers with the capacity to produce high-quality products.
- Canada has a technological infrastructure specifically oriented toward high-technology industry.
- Canada has a government committed to a range of tax and other incentives. For example, in Cape Breton, Nova Scotia, incentives and tax initiatives can reduce outlays of capital to as little as 16 percent of the original intended investment.
- Canada has a government highly responsive to the needs of the business community.
- Canada has less government involvement in the private sector:
  - deregulation in telecommunications, energy and transportation;
  - privatization of government-owned corporations;
  - positive government attitude (federal and provincial) toward the business community.

Industry Information

	Sector Codes of the 1980 Standard Industrial Classification	<u>Page No.</u>
Metal mines	061	
Mineral fuels	063, 071	
Food industries	10	
Beverages	11	
Tobacco products	12	
Rubber products	15	
Plastics fabricating	16	
Leather industries	17	
Primary textiles	18	
Textile products	19	
Clothing industries	24	
Wood industries	25	
Furniture and fixtures	26	
Paper and allied industries	27	
Printing and publishing	28	
Primary metals	29	
Fabricated metals	30	
Machinery	31	
Transportation equipment	32	
motor vehicles and parts	323, 4, 5	
Electrical and electronics	33	
communications equipment	335	
Non-metallic mineral products	35	
Petroleum and coal products	36	
Chemicals and chemical products	37	
Other manufacturing	39	





# METAL MINES

## 1 SIZE AND STRUCTURE

	<u>Metal Mines</u>	<u>Percent of All Mining</u>
Value of production (\$ million, 1986)	8,944	27.4
<u>Major minerals as percent of production value (1986)</u>		
Gold	19.2	
Copper	17.5	
Zinc	14.6	
Iron ore	14.0	
Nickel	12.0	
Uranium	10.3	
Estimated employment (numbers, 1986)	45,728	31.3
Approximate concentration, top four enterprises percent of sales (1982) <sup>1</sup>	46.4*	

<sup>1</sup> Based on Corporate Statistics, CALURA.

\* estimate

## 2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments (1986)<sup>2</sup></u>	
	<u>Metal Mines</u>	<u>All Manufacturing</u>
Quebec	14.0	6.3
Ontario	39.6	13.0
British Columbia	14.4	10.0
Other provinces	32.0	70.7
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

## 3 APPARENT MARKET

	<u>Metal Mines</u> (\$ million, 1986)	<u>Percent of All Mining</u>
Value of production	8,944	27.4
Domestic exports	2,959	20.4
Domestic shipments	5,985	33.0
Imports <sup>3</sup>	1,742	29.9
Apparent market <sup>3</sup>	7,727	32.3

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.

## 4 EXTERNAL TRADE

	<u>Metal Mines</u>	<u>Percent of All Mining</u>
Export orientation (1986)	33.1% of shipments	44.5
Import penetration (1986)	22.5% of apparent market	24.3

Major export clients, 1986 (percent)	United States	24.5
	EEC <sup>4</sup>	38.6
	Other OECD	29.1
	Non-OECD	7.8
Major import sources, 1985 (percent)	United States	53.4
	Japan	4.1
	EEC <sup>5</sup>	14.4
	Other OECD	8.7
	Non-OECD	29.4

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

### 5 INVESTMENT AND PROFITABILITY

	<u>Metal Mines</u> <sup>6</sup>		<u>1987</u>	<u>Percent of All Mining</u>		<u>1987</u>
	<u>1985</u>	<u>1986</u>		<u>1985</u>	<u>1986</u>	
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	332.4	302.8	329.7	19.7	28.1	31.4
Construction	1,053.5	858.4	852.1	11.4	14.1	16.8
TOTAL	1,375.9	1,161.2	1,181.8	12.6	16.2	19.3
		<u>1984</u>		<u>All Mining 1984</u>		
Profits as a percentage of sales of goods and service		-3.9		6.2		

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

### 6 MAJOR FIRMS AND COUNTRY OF CONTROL

Alcan Aluminium (Cdn/US); Brunswick Mining and Smelting Corp. (Cdn); Campbell Red Lake Mines Ltd (Cdn); Cominco Ltd. (Cdn); Denison Mines Ltd. (Cdn); Dome Mines Ltd. (Cdn); Echo Bay Mines Ltd. (Cdn); Falconbridge Ltd. (Cdn); Gibraltar Mines Ltd. (Cdn); Inco Ltd. (Cdn); Kidd Creek Mines Ltd. (Cdn); Lac Minerals Ltd (US/Cdn); Lornex Mining Corporation Ltd. (UK); Noranda Inc. (Cdn); Placer Development Ltd. (Cdn); Rio Algom Ltd. (UK); Sheritt Gordon Mines Ltd. (Cdn); Teck Corp. (Cdn); Westar Mining Ltd. (Cdn).

### 7 PRODUCTS

Copper	Nickel
Gold	Silver
Iron ore	Lead
Zinc	Molybdenum
Uranium	

### 8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Metal Mines</u>	<u>All Mining</u>
Assets	23.7	35.1
Sales	29.9	50.2
Profits	195.5	72.9

9 TECHNOLOGICAL SITUATION<sup>7</sup>

	Metal Mines (\$ million, 1986)	Percent of All Mining
<u>Intramural R&amp;D outlays</u>		
Current	39	39.0
Capital	1	3.4
TOTAL	40	31.0

Number of persons engaged in R&amp;D in 1984

n/a

n/a

Number of firms engaged in R&amp;D in 1984

10

21.28

General level of technology

Largely established

7 All figures for 1986 are projected.

10 ROLE OF GOVERNMENT

For the most part the mineral rights of all land in Canada are owned by the provincial or federal governments in their respective jurisdictions. Exploration and development require government permits and the payment of royalties. The federal income tax provision for flow-through of exploration expenses has resulted in a great deal of exploration activity; the income tax system of depletion allowances is also an important incentive for investment in mines and smelters. The federal government undertakes an active program of mapping and geological surveys, and has negotiated mineral development agreements with the provinces to fund geoscientific work. Government control of minesite development is exerted through water permits, and the nuclear industry, a customer of uranium, is subject to government control.

11 INDUSTRIAL RELATIONS

	Metal Mines	Percent of All Mining
<u>Days lost</u>		
Average, 1983-85	56,167	55.1
Lost during 1986 <sup>8</sup>	52,920	15.0
Days lost as proportion of total time worked (1986)	0.5	1.0

8 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	Metal Mines	All Mining
Peak	4th Q, 1981	1st Q, 1981
Trough	3rd Q, 1982	3rd Q, 1982
Recovery	1st Q, 1984	4th Q, 1983

Annual Activity Change

	Percentage	
1982	-12.8	-5.9
1983	4.8	3.5
1984	13.9	11.7
1985	3.2	4.7
1986	5.3	-4.7

13 LATEST GENERAL PERFORMANCE

	Percent change 1986-85	
	Metal Mines	All Mining
(a) Real production	5.3	4.7
(b) Employment	-3.7	-6.8
(c) Implied productivity ((a) less (b))	9.0	2.1
(d) Average weekly wages and salaries	3.6	1.9
(e) Implied unit labour costs ((c) less (d))	5.4	0.2

## MINERAL FUELS

1 SIZE AND STRUCTURE

	<u>Mineral Fuels</u>	<u>Percent of All Mining</u>
Value of production (\$ million, 1986)	20,004	61.2
<u>Major fuels as percent of production value (1986)</u>		
Crude petroleum	48.6	
Natural gas	33.7	
Natural gas by-products	9.1	
Coal	8.6	
Estimated employment (numbers, 1986)	52,501	36.0
Approximate concentration, top four enterprises percent of sales (1982) <sup>1</sup>	32.4*	

1 Based on Corporate Statistics, CALURA.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Production Value, (1986)<sup>2</sup></u>	
	<u>Mineral Fuels</u>	<u>All Mining</u>
Quebec		6.3
Ontario	0.4	13.0
British Columbia	8.6	10.0
Other provinces	91.0	70.7
Canada		100.0

3 APPARENT MARKET

	<u>Mineral Fuels</u> (\$ million, 1986)	<u>Percent of All Mining</u>
Value of production	20.004	61.2
Domestic exports	8.052	55.4
Domestic shipments	11.952	65.9
Imports <sup>2</sup>	3.086	53.0
Apparent market <sup>2</sup>	15.038	62.8

2 Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Mineral Fuels</u>	<u>Percent of All Mining</u>
Export orientation (1986)	40.3% of production value	44.5
Import penetration (1986)	20.5% of apparent market	24.3
<u>Major Export Clients, 1986 (percent)</u>		
	United States	70.7
	EEC <sup>3</sup>	2.5
	Other OECD	14.5
	NON-OECD	12.3

Major Import Sources, 1985 (percent)

United States	27.6
EEC <sup>4</sup>	25.3
Other OECD	1.9
Non-OECD	45.2

<sup>3</sup> Includes Portugal and Spain

<sup>4</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Mineral Fuels<sup>5</sup></u>			<u>Percent of</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
		(\$ million)				
<u>New capital expenditures</u>						
Machinery and equipment	1,062.4	586.8	563.7	65.1	54.4	53.7
Construction	8,014.3	5,123.9	4,150.0	86.4	84.1	81.7
TOTAL	9,076.7	5,710.7	4,713.7	83.2	79.7	76.9
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as a percentage of sales of goods and services	12.4		6.2			

<sup>5</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Alberta Energy Co. Ltd. (Cdn); Amoco Canada Petroleum Co. Ltd. (US); BP Canada Inc. (UK); Bow Valley Industries Ltd. (Cdn); Canadian Occidental Petroleum (US/Cdn); Canterra Energy Ltd. (Cdn); Chevron Canada Resources Ltd. (US); Dome Petroleum Ltd. (Cdn); Gulf Canada Ltd. (US); Mobil Oil Canada Ltd. (US); Norcem Energy Resources Ltd. (Cdn); Pan Canadian Petroleum Ltd. (Cdn); Petro-Canada (Cdn); Shell Canada Ltd. (Dutch/UK); Texaco Canada Inc. (US); Westcoast Transmission Co. Ltd. (Cdn); Western Resources Ltd. (Cdn).

7 PRODUCTS

Crude oil	Pentanes
Natural gas	Butane
Synthetic crude oil	Propane
Ethane	Coking coal
Thermal coal	

Coal

Cape Breton Development Corp. (Cdn); Cardinal River Coals (US); Crows Nest Resources Ltd. (Netherlands/UK); Esso Minerals Canada (US); Fording Coal (Cdn); Quintette Coal Ltd. (Cdn); Smoky River Coal Ltd. (US); Teck Corporations (Cdn); Westar Mining Ltd. (Cdn/Japan).

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Mineral Fuels</u>	<u>All Mining</u>
Assets	39.1	35.1
Sales	60.1	50.2
Profits	69.3	72.9



9 TECHNOLOGICAL SITUATION

	Mineral Fuels (\$ million, 1986)	Percent of All Mining
<u>Intramural R&amp;D outlays</u>		
Current	46	46.0%
Capital	5	17.2%
TOTAL	51	39.5%
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	16	1.74
General level of technology	Largely established	

10 ROLE OF GOVERNMENT

The provincial and federal governments own almost all of the mineral rights within their jurisdictions and provide exploration leases, development permits and licences for the extraction of mineral fuels. Provincial governments charge royalties on the production of oil and gas within their jurisdiction. In conjunction with the provincial governments, the federal government, through mineral development agreements, funds geoscientific work (mapping and surveys) which assist industry. The federal government, is also active in the exploration, development, refining and marketing of mineral fuels in Canada through Petro-Canada. Some provincial governments own investments in mineral fuel companies. The National Energy Board controls the export of mineral fuels. Provincial governments regulate production and distribution of mineral fuels within their borders.

11 INDUSTRIAL RELATIONS

	Mineral Fuels	Percent of All Mining
<u>Days lost</u>		
Average, 1983-85	31.327	30.7
Lost during 1986 <sup>6</sup>	110.870	31.5
Days lost as proportion of total time worked (1986)	0.8	1.0

6 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	Mineral Fuels	All Mining
Peak	1st Q, 1981	1st Q, 1981
Trough	2nd Q, 1982	3rd Q, 1982
Recovery	3rd Q, 1983	4th Q, 1983

Annual Activity Change

	Percentage	
1982	0.1	-5.9
1983	2.7	3.5
1984	7.0	11.7
1985	4.9	4.7
1986	-2.6	-4.7

13 LATEST GENERAL PERFORMANCE

	Mineral Fuels	Percent change 1986-85 All Mining
(a) Real production	-2.6	-4.7
(b) Employment	-8.7	-6.8
(c) Implied productivity ((a) less (b))	6.1	2.1
(d) Average weekly wages and salaries	1.6	1.9
(e) Implied unit labour costs ((c) less (d))	4.5	0.2

## FOOD INDUSTRIES

1 SIZE AND STRUCTURE

	Food Industries (\$ million)	Percent of All Manufacturing
Estimated shipments (\$ million, 1986) <sup>1</sup>	34,062	13.5
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Meat and poultry products	30.9	
Dairy products	19.3	
Flour, prepared cereal and feed	12.3	
Other food products	12.0	
Fruit and vegetables	7.2	
Bakery products	5.8	
Fish products	5.1	
Sugar and confectionery	4.7	
Vegetable oil mills	2.7	
Estimated employment (numbers, 1986) <sup>1</sup>	186,036	10.3
Approximate concentration, top four enterprises percent of shipments (1982)	40.0*	
<u>Share of activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	94	98
Percent of employment	49	47
Percent of shipments	57	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	Percentage Distribution of Shipments (1986) <sup>2</sup>	
	Food Industries (\$ million)	All Manufacturing
Quebec	25.5	24.4
Ontario	39.0	53.3
British Columbia	8.1	8.2
Other provinces	26.7	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Food Industries</u> (\$ million, 1984)	<u>Percent of</u> <u>All Manufacturing</u>
Shipments	36,125	16
Domestic exports	4,535	5
Domestic shipments	31,570	21
Imports <sup>3</sup>	3,601	4
Apparent market <sup>3</sup>	35,172	15

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Food Industries</u> (\$ million)	<u>All Manufacturing</u>
Export orientation (1986)	14.8% shipments	38.9
Import penetration (1986)	13.2% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	56.3
	Japan	15.5
	EEC <sup>4</sup> 10.8	
	Other OCED	2.6
	Non-OCED	14.8
Major import sources, 1985 (percent)		
	United States	47.9
	EEC <sup>5</sup> 12.9	
	Other OCED	12.9
	Non-OCED	26.3

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Food Industries<sup>6</sup></u> <u>(\$ million)</u>			<u>Percent of</u> <u>All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
<u>New capital expenditures</u>						
Machinery and equipment	569.8	624.4	738.4	6.4	5.4	5.8
Construction	177.3	176.9	184.1	6.9	7.3	7.6
TOTAL	747.1	801.3	922.5	6.5	5.8	6.1
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as a percentage of sales of goods and services	2.4	4.0				

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

## 6 MAJOR FIRMS AND COUNTRY OF CONTROL

Agropur Coop  rative Agro-Alimentaire (Cdn); Ault Foods Ltd. (Cdn); Beatrice Foods (US); Burns Meat Ltd. (Cdn); Campbell Soup Co. Ltd. (US); Canada Malting Co. Ltd. (Cdn); Canada Packers Ltd. (Cdn); Canada Starch Co. Ltd. (US); Canadian Cannery Ltd. (US); Canbra Foods Ltd. (Cdn); Clouston Foods Canada Ltd. (Cdn); Cooperative Fed  r   de Qu  bec (Cdn); Culinar Inc. (Cdn); Fishery Products International Ltd. (Cdn); Fraser Valley Milk Producers Cooperative (Cdn); Gainers Inc. (Cdn); General Bakeries Ltd. (Cdn); General Foods Inc. (US); General Mills Canada Inc. (US); Green Giants (Cdn); H.J. Heinz of Canada Ltd. (US); Heritage Group Inc. (Cdn); Intercontinental Packers Ltd. (Cdn); J.M. Schneider Inc. (Cdn); Laura Secord Ltd. (UK); McCain Foods Ltd. (Cdn); Maple Leaf Mills (Cdn); Nabisco Brands Ltd. (US); National Sea Products Ltd. (Cdn); Nestl   Enterprises (Swiss); Northern Alberta Dairy Pool (Cdn); Palm Dairies Ltd. (Cdn); Parrish & Heimbecker Ltd. (Cdn); Purdel Cooperative Agro Alimentaire (Cdn); Redpath Industries Ltd. (UK); Robin Hood Multifoods Inc. (US); Salaison Olympia Ltd. (Cdn); Silverwood Dairies Ltd. (Cdn); Unilever Canada Ltd. (UK); United Grain Growers (Cdn); Weston Bakeries Ltd. (Cdn); Weston George Ltd. (Cdn).

## 7 PRODUCTS

Meat and Poultry  
Smoked and cured meats  
Canned and prepared meats  
Meats, fresh and frozen

Flour Cereals  
Wheat flour, bran,  
Breakfast cereal, grains and meal

Dairy Products  
Milk, condensed, evaporated, powdered  
Butter, cream, cheese, ice cream  
Margarine, yoghurt, etc.

Bakery Products  
Biscuits, breads, rolls, buns, pies,  
cookies, cakes etc.

Vegetable Oils  
Raw, crude, refined

Fruit and Vegetables  
Frozen and canned juices, drinks,  
pastes, fillings, soups and stews  
Infant and junior foods  
Jams, jellies, syrup etc.

Fish Products  
Salmon, groundfish, shellfish

Sugar and Sugar Confectionery  
Sugar, granulated and liquid  
Icing sugar, chewing gum, candies,  
candybars, chocolate etc.

Other Food Products  
Coffee, tea, dry pasta products  
potato chips, popcorn, food snacks,  
malt and malt flour

## 8 OWNERSHIP

Assets  
Sales  
Projects

Percentage of Foreign Control, 1984  
Food Industries All Manufacturing  
(\$ million, 1984)

31.5	44.3
26.3	50.4
47.7	63.3

## 9 TECHNOLOGICAL SITUATION

Intramural R&D outlays  
Current  
Capital  
Total

Food Industries Percent of  
(\$ million, 1986) All Manufacturing

57	2.7
10	2.4
67	2.4

Number of persons engaged in R&D in 1984  
Number of firms engaged in R&D in 1984  
General level of technology

n/a	n/a
64	6.96
Relatively low	

10 ROLE OF GOVERNMENT

Government involvement is extensive through federal health and inspection regulations pertaining to product labelling, product safety, integrity and protection against adulteration. Governments act to ensure the sanitary production, manufacturing and storage of food. Marketing boards administer supply management programs to set production quotas and prices for the poultry and dairy products, but not for beef or pork. Stabilization programs are established at the producer level to smooth out cyclical swings in production. Major assistance programs for the industry include DRIE's Industrial and Regional Development Program (IRDP), the Western Transportation Industrial Development Program (WTID) and the Special Agricultural and Rural Development Act (SARDA).

11 INDUSTRIAL RELATIONS

	<u>Food Industries</u>	<u>Percent Of All Manufacturing</u>
Days lost		
Average, 1983-85	289,731	18.4
Lost during 1986 <sup>7</sup>	221,950	16.7
Days lost as percent of total time worked (1986)	0.5	0.3

7 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Food Industries</u>	<u>All Manufacturing</u>
Peak	4th Q, 1981	2nd Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery	3rd Q, 1985	4th Q, 1985

Annual Activity Change

	<u>Percentage</u>	
1982	-1.5	-11.1
1983	-0.3	6.1
1984	0.7	7.1
1985	3.2	4.7
1986	1.3	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Food Industries</u>	<u>Percent change 1986-85 All Manufacturing</u>
(a) Real production	1.3	1.7
(b) Employment	-3.6	2.1
(c) Implied productivity ((a) less (b))	4.9	-0.4
(d) Average weekly wages and salaries	6.5	3.3
(e) Implied unit labour costs ((c) less (d))	-1.7	-3.7



BEVERAGES1 SIZE AND STRUCTURE

	<u>Beverages</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	5,223	2.1
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Brewery Products Industry	41.8	
Soft Drink Industry	34.8	
Distillery Products Industry	18.1	
Wine Industry	5.2	
Estimated employment (numbers, 1986) <sup>1</sup>	32,046	1.8
Approximate concentration, top four enterprises percent of shipments (1980)	77.0	
<u>Share of activity by medium and smaller production units (under 200 employees, 1982)</u>		
Percent of establishments	88	98
Percent of employment	37	47
Percent of shipments	43	40

<sup>1</sup> Published survey data adjusted for more recent reference year

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Beverages</u>	<u>All Manufacturing</u>
Quebec	24.1	24.4
Ontario	43.8	53.3
British Columbia	-	8.2
Other provinces	7.1	14.1
Canada		100.0

<sup>2</sup> Percentages may not add upto 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Beverages (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	5,223	2.1
Domestic exports	.545	
Domestic shipments	4,678	3.0
Imports <sup>3</sup>	.524	0.5
Apparent market <sup>3</sup>	5,202	2.0

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 TRADE AND TARIFFS

	<u>Beverages (\$ million)</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	10.4% of shipments	38.9
Import penetration (1986)	10.1% of apparent market	39.8

Major export clients, 1986 (percent)	United States	95.4
	Japan	1.3
	EEC <sup>4</sup>	1.3
	Other OCED	0.6
	Non-OCED	1.4
Major import sources, 1985 (percent)	United States	14.6
	EEC <sup>5</sup>	64.5
	Other OCED	4.7
	Non-OCED	16.2

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

#### 5 INVESTMENT AND PROFITABILITY

	<u>Beverages<sup>6</sup></u>		<u>1987</u>	<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>		<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ millions)					
New capital expenditures						
Machinery and equipment	216.9	201.8	205.5	2.4	1.7	0.3
Construction	52.9	32.0	36.8	2.1	1.3	1.5
TOTAL	269.8	233.8	242.3	2.3	1.7	1.6

	<u>1984</u>	<u>All Manufacturing 1984</u>
Profits as a percentage of sales of goods and services	5.3	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987

#### 6 MAJOR FIRMS AND COUNTRY OF CONTROL

Andres Wines Ltd. (Cdn); Calona Wines Ltd. (US); Carling O'Keefe Ltd. (Australian); Coca-Cola Ltd. (US); Hiram Walker Resources Ltd. (UK); John Labatt Ltd. (Cdn); Jordan & Ste-Michelle Cellars Ltd. (UK); The Molson Companies Ltd. (Cdn); Moosehead Breweries Ltd. (Cdn); Rideout Wines Ltd. (Cdn); Seagram Co. Ltd. (Cdn); T.G. Brights and Co. Ltd. (Cdn).

#### 7 PRODUCTS

Carbonated soft drinks (regular/low calorie)

Beverage spirits (matured and non-matured, all types)

Beer, stout, ale, porter etc.

Wine, ciders

Brewers grain and yeast (wet, dry)

#### 8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Beverages</u>	<u>All Manufacturing</u>
	(\$ million, 1984)	
Assets	28.1	44.3
Sales	38.2	50.4
Profits	42.5	63.3

#### 9 TECHNOLOGICAL SITUATION

	<u>Beverages</u>	<u>Percentage of All Manufacturing</u>
	(\$ million, 1986)	
<u>Intramural R&amp;D outlays</u>		
Current	5	0.2
Capital	1	0.3
TOTAL	6	0.2

Number of persons engaged in R&D in 1984

n/a

n/a

Number of firms engaged in R&D in 1984

10

1.08

General level of technology

Relatively low

10 ROLE OF GOVERNMENT

Provincial governments regulate licensing, pricing and distribution of alcoholic beverages in their respective jurisdictions. In recent years federal government assistance has been available to wineries under the Industrial and Regional Development Program (EDP) and the Industrial Research Assistance Program (IRAP) for establishment, expansion/modernization and innovation in both products. Regulation labelling, competition, and advertising on radio and television is under federal authority.

11 INDUSTRIAL RELATIONS

	<u>Beverages</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	53,299	3.4
Lost during 1986 <sup>7</sup>	3,990	0.3
Days lost as proportion of total time worked (1986)	0.05	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-84 (Real Output)

<u>Comparative Cyclical Pattern</u>	<u>Beverages</u>	<u>All Manufacturing</u>
Peak	3rd Q, 1981	2nd Q, 1981
Trough	3rd Q, 1982	4th Q, 1982
Recovery	2nd Q, 1986	2nd Q, 1985
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-5.4	-11.1
1983	2.0	6.1
1984	-0.1	7.1
1985	1.9	4.7
1986	3.1	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Beverages</u>	<u>All Manufacturing</u>
(a) Real production	3.1	1.7
(b) Employment	0.6	2.1
(c) Implied productivity ((a) less (b))	2.5	-0.4
(d) Average weekly wages and salaries	4.0	3.3
(e) Implied unit labour costs (a) less (d)	-1.5	-3.7

## TOBACCO PRODUCTS

1 SIZE AND STRUCTURE

	<u>Tobacco Products</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	1,576	0.6
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Tobacco products manufacturers	79.5	
Leaf tobacco processors	20.5	
Estimated employment (numbers, 1986) <sup>1</sup>	6,838	0.4
Approximate concentration, top four enterprises percent of shipments (1982)	99.1	
<u>Share of activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	60	98
Percent of employment	10	47
Percent of shipments	16	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Tobacco Products</u>	<u>All Manufacturing</u>
Quebec	50.3	24.4
Ontario	49.7	53.3
British Columbia	-	8.2
Other provinces	-	14.1
Canada		100.0

3 APPARENT MARKET

	<u>Tobacco Products</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	1,576	0.6
Domestic exports	111	0.1
Domestic shipments	1,465	1.0
Imports <sup>2</sup>	34	0.03
Apparent market <sup>2</sup>	1,499	0.6

<sup>2</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Tobacco Products</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	7.0% of shipments	38.9
Import penetration (1986)	2.3% of apparent market	39.8

Major export clients, 1986 (percent)	United States	29.3
	EEC <sup>3</sup>	54.6
	Other OECD	3.6
	Non-OECD	12.5
Major import sources, 1985 (percent)	United States	65.9
	EEC <sup>4</sup>	24.7
	Other OECD	6.5
	Non-OECD	2.9

<sup>3</sup> Includes Portugal and Spain

<sup>4</sup> Excludes Portugal and Spain

### 5 INVESTMENT AND PROFITABILITY

	<u>Tobacco Products<sup>5</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	47.0	44.7	33.5	0.5	0.4	0.3
Construction	5.3	4.5	3.9	0.2	0.2	0.2
TOTAL	52.3	49.2	37.4	0.4	0.3	0.2

	<u>1984</u>	<u>All Manufacturing 1984</u>
Profits as percentage of sales of goods and services	17.6	4.0

<sup>5</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

### 6 MAJOR FIRMS AND COUNTRY OF CONTROL

Benson and Hedges (Canada) Inc. (UK); Imasco Limited (Imperial Tobacco) (UK); RJR MacDonald Inc. (US); Rothmans of Pall Mall Canada Limited (UK).

### 7 PRODUCTS

Cigarettes  
Leaf Tobacco  
Smoking Tobacco

### 8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Tobacco Products</u>	<u>All Manufacturing</u>
	(\$ million)	
Assets	99.7	44.3
Sales	96.8	50.4
Profits	98.7	63.3

### 9 TECHNOLOGICAL SITUATION

	<u>Tobacco Products</u>	<u>Percent of All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	7	0.3
Capital	1	0.3
TOTAL	8	0.3
Number of persons engaged in R&D (1984)	n/a	n/a
Number of firms engaged in R&D (1984)	5	0.5
General level of technology	Low	



10 ROLE OF GOVERNMENT

While not subject to government regulation, the industry has voluntarily agreed to print health warnings on its products and maintain quality standards. Heavy federal and provincial taxation applies to tobacco products. Conditionally repayable loans for export development are available under the Program for Export Market Development (PEMD). Supply prices are influenced by provincial marketing arrangements, notably the Ontario Flue-Cured Tobacco Grower's Marketing Board.

11 INDUSTRIAL RELATIONS

	<u>Tobacco Products</u>	<u>Percent of All Manufacturing</u>
Days lost		
Average, 1983-85	0	-
Lost during 1986	0	-
Days lost as percent of total time worked (1986)	0	0.3

6 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Tobacco Products</u>	<u>All Manufacturing</u>
Peak	3rd Q, 1981	2nd Q, 1981
Trough	3rd Q, 1983	4th Q, 1982
Recovery	Remained below peak	2nd Q, 1985

Annual Activity Change

	<u>Percentage</u>	
1982	-2.4	-11.1
1983	-5.9	6.1
1984	-3.0	7.1
1985	2.9	4.7
1986	-10.3	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Tobacco Products</u>	<u>All Manufacturing</u>
(a) Real production	-10.4	1.7
(b) Employment	-3.5	2.1
(c) Implied productivity ((a) less (b))	-6.9	-0.4
(d) Average weekly wages and salaries	4.4	3.3
(e) Implied unit labour costs ((c) less (d))	-11.3	-3.7

## RUBBER PRODUCTS

1 SIZE AND STRUCTURE

	<u>Rubber Products</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	2,539	1.0
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Tire and tube industry and other rubber products industries	91.4	
Rubber hose and belting industries	8.6	
Estimated employment (numbers, 1986) <sup>1</sup>	25,564	1.4
Approximate concentration, top four enterprises percent of shipments (1982)	57.4	
<u>Share of activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	86	98
Percent of employment	5	47
Percent of shipments	18	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Rubber Products</u>	<u>All Manufacturing</u>
Quebec	59.7	25.3
Ontario	-	53.3
British Columbia	-	8.2
Other provinces	-	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Rubber Products</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	2,539	1.0
Domestic exports	912	0.9
Domestic shipments	1,627	1.1
Imports <sup>3</sup>	792	0.8
Apparent market <sup>3</sup>	2,419	1.0

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Rubber Products</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	35.9 percent of shipments	38.9
Import penetration (1986)	32.7 percent of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	93.4
	Japan	1.1
	EEC <sup>4</sup>	1.0
	Other OECD	1.1
	Non-OECD	3.4
Major import sources, 1985 (percent)		
	United States	66.7
	EEC <sup>5</sup>	8.4
	Other OECD	8.9
	Non-OECD	6.0

<sup>4</sup> Includes Portugal and Spain<sup>5</sup> Excludes Portugal and Spain5 INVESTMENT AND PROFITABILITY

	<u>Rubber Products<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	104.2	120.3	161.2	1.2	1.0	1.3
Construction	14.1	10.6	7.5	0.5	0.4	0.3
TOTAL	118.3	130.9	168.7	1.0	0.9	1.1
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as percentage of sales of goods and services	3.9	4.0				

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.6 MAJOR FIRMS AND COUNTRY OF CONTROL

B.F. Goodrich Canada Inc. (US); Firestone Canada Inc. (US); General Tire Canada Ltd. (US); Goodyear Canada Inc. (US); Michelin Tires (Canada) Inc. (French); Polysar Ltd. (Cdn); Rubbermaid Canada Inc.; Uniroyal Ltd. (US).

7 PRODUCTS

Tires and tubes (all types of vehicles)

Rubber moulded goods

Rubber belts and belting

Rubber hoses

Compounded or sonic processed, natural or synthetic rubber, treated rubber

Tapes

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Rubber Products</u>	<u>All Manufacturing</u>
	(\$ million)	
Assets	92.2	44.3
Sales	89.8	50.4
Profits	91.9	63.3

9 TECHNOLOGICAL SITUATION

	Rubber Products (\$ million, 1986)	Percent of All Manufacturing
<u>Intramural R&amp;D outlays</u>		
Current	10	0.4
Capital	*	*
TOTAL	10	0.4
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	9	0.98
General level of technology	Low	

\* Too small to be expressed (under \$500,000).

10 ROLE OF GOVERNMENT

The industry has import quotas and tariffs in the range of 9 percent to 12 percent against low cost import competition. The federal government owns Polysar Ltd., the world's largest manufacturer of synthetic rubber and rubber latex. Industrial assistance is available under the Industrial and Regional Development Program (IRDP) and export assistance under the Program for Export Market Development (PEMB) and through the Export Development Corporation (EDC). The Industrial Research Assistance Program (IRAP) administered by the National Research Council (NRC) provides assistance to the industry to undertake research activities in Canada.

11 INDUSTRIAL RELATIONS

	Rubber Products	Percent of All Manufacturing
<u>Days lost</u>		
Average, 1983-85	77,867	4.9
Lost during 1986 <sup>7</sup>	84,380	6.3
Days lost as percent of total time worked (1986)	1.3	0.3

7 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	Rubber Products	All Manufacturing
Peak	2nd Q, 1981	2nd Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery	3rd Q, 1983	2nd Q, 1985

Annual Activity Change

	Percentages	
1982	-6.1	-11.1
1983	10.6	6.1
1984	19.9	7.1
1985	-5.3	4.7
1986	0.9	1.7

13 LATEST GENERAL PERFORMANCE

	Percent change 1986-85	
	Rubber Products	All Manufacturing
(a) Real production	0.9	1.7
(b) Employment	2.7	2.1
(c) Implied productivity ((a) less (b))	-1.8	-0.4
(d) Average weekly wages and salaries	4.5	3.3
(e) Implied unit labour costs ((c) less (d))	-6.3	-3.7

## PLASTICS FABRICATION

1 SIZE AND STRUCTURE

	<u>Plastics Fabricating</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	4,032	1.6
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Other plastic products	62.4	
Plastic film and sheeting	16.7	
Plastic pipe fittings	11.0	
Foamed and expanded plastic products	9.8	
Estimated employment (numbers, 1986) <sup>1</sup>	38,155	2.1
Approximate concentration, top four enterprises percent of shipments (1982)	9.5	
<u>Share of activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	98	98
Percent of employment	85	47
Percent of shipments	85	40

<sup>1</sup> Published survey data adjusted for more recent reference year

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1984)<sup>2</sup></u>	
	<u>Plastics Fabricating</u>	<u>All Manufacturing</u>
Quebec	24.5	24.4
Ontario	59.7	53.3
British Columbia	-	8.2
Other provinces	-	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Plastics Fabricating</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	4,032	1.6
Domestic exports	683	0.7
Domestic shipments	3,349	2.2
Imports <sup>3</sup>	1,195	1.2
Apparent market <sup>3</sup>	4,544	1.8

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.



4 EXTERNAL TRADE

	<u>Plastics Fabricating</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	16.9% of shipments	38.9
Import penetration (1986)	26.3% of apparent market	39.8
Major export clients, 1986 (percent)	United States 90.1 EEC <sup>4</sup> 3.4 Other OECD 2.9 Non-OECD 3.6	
Major import sources, 1985 (percent)	United States 83.3 Japan 2.0 EEC <sup>5</sup> 8.8 Other OECD 1.0 Non-OECD 4.9	

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Plastics Fabricating<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	133.0	162.9	196.2	1.5	1.4	1.5
Construction	28.5	51.0	42.8	1.1	2.1	1.8
TOTAL	161.5	213.9	239.0	1.4	1.5	1.6

1984      All Manufacturing 1984

Profits as percentage of sales of goods and service      n/a      4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Artopex Inc. (Cdn); CIL Inc. (UK); Canon Inc. (Cdn); Canadian General Towers Ltd. (Cdn); Dupont Canada Inc. (US); Dow Chemical Canada Inc. (US); IPL Inc. (Cdn); Leco Inc. (Cdn); Maple Leaf Plastics Corporation (Cdn); North American Plastic Co. Ltd. (Cdn); Reliance Products Ltd. (Cdn); Scepter Manufacturing Co. Ltd. (Cdn); Woodbridge Foam Corporation (Cdn).

7 PRODUCTS

Plastic pipes, tubes and fittings  
Automobile parts and accessories (plastic)  
Insulation and building materials  
Foamed and expanded shapes  
Plastic bags (all types)  
Bathroom fixtures and accessories  
Household articles  
Recreational equipment  
Plastic dishes, utensils and containers

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Plastics Fabricating</u>	<u>All Manufacturing</u>
Assets		44.3
Sales		50.4
Profits		63.3

7 "Data cannot be obtained and separated from other miscellaneous manufacturing components reported by CALURA."

9 TECHNOLOGICAL SITUATION

	<u>Percent of</u>	
	<u>Plastics Fabricating</u> (\$ million, 1986)	<u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	6	0.3
Capital	3	0.8
TOTAL	9	0.3
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	27	2.94
General level of technology	Some high	

10 ROLE OF GOVERNMENT

There are no specific federal government financial assistance programs for the plastic products industry. Government policy, however, plays an important role in the development of the industry through backward linkages. Industrial assistance to new and existing business is available through various programs such as the Industrial and Regional Development Program (IRDP) and the Defence Industry Productivity Program (DIPP). Export assistance is available under the Program for Export Market Development (PEMD) and the Export Development Program. The Industrial Research Assistance Program (IRAP) administered by the National Research Council provides assistance to the industry to undertake research in Canada.

11 INDUSTRIAL RELATIONS

	<u>Plastics Fabricating</u>	<u>Percent of</u> <u>All Manufacturing</u>
Days lost		
Average, 1983-85	8,530	0.5
Lost during 1986 <sup>8</sup>	11,350	0.9
Days lost as percent of total (1986) time worked	0.03	0.3

8 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Plastics Fabricating</u>	<u>All Manufacturing</u>
Peak	3rd Q, 1981	2nd Q, 1981
Trough	2nd Q, 1982	4th Q, 1982
Recovery	2nd Q, 1983	2nd Q, 1985

Annual Activity Change

	<u>Percentages</u>	
1982	-6.1	-11.1
1983	12.5	6.1
1984	7.0	7.1
1985	5.3	4.7
1986	3.7	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Plastics Fabricating</u>	<u>All Manufacturing</u>
(a) Real production	3.7	1.7
(b) Employment	4.6	2.1
(c) Implied productivity ((a) less (b))	-0.9	-0.4
(d) Average weekly wages and salaries	5.1	3.3
(e) Implied unit labour costs ((c) less (d))	-6.0	-3.7

## LEATHER INDUSTRIES

1 SIZE AND STRUCTURE

	<u>Leather Industries</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	1,334	0.5
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Footwear industry	67.4	
Leather tanneries	17.1	
Luggage, purse and handbag industry	9.5	
Other leather and allied products	6.0	
Estimated employment (numbers, 1986) <sup>1</sup>	21,095	1.2
Approximate concentration, top four enterprises percent of shipments (1982)	36.1*	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	92	98
Percent of employment	55	47
Percent of shipments	55	40

<sup>1</sup> Published survey data adjusted for more recent reference year

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments (1986)<sup>2</sup></u>	
	<u>Leather Industries</u>	<u>All Manufacturing</u>
Quebec	34.9	24.4
Ontario	58.8	53.3
British Columbia	-	8.2
Other provinces	-	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Leather Industries</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
Shipments	1,334	0.5
Domestic exports	133	0.1
Domestic shipments	1,201	0.8
Imports <sup>3</sup>	1,024	1.0
Apparent market <sup>3</sup>	2,225	0.9

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Leather Industries</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	10.0% of shipments	38.9
Import penetration (1986)	46.0% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	87.8
	EEC <sup>4</sup>	4.4
	Other OECD	1.1
	Non-OECD	6.7
Major import sources, 1985 (percent)		
	United States	10.6
	EEC <sup>5</sup>	30.9
	Other OECD	7.7
	Non-OECD	50.8

<sup>4</sup> Includes Portugal and Spain<sup>5</sup> Excludes Portugal and Spain5 INVESTMENT AND PROFITABILITY

	<u>Leather Industries<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	19.0	13.7	11.1	0.2	0.1	-
Construction	3.9	4.5	3.8	0.1	0.2	0.2
TOTAL	22.9	18.2	14.9	0.2	0.1	0.1
Profits as percentage of sales of goods and services	<u>1984</u>	<u>All Manufacturing 1984</u>				
	2.4	4.0				

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.6 MAJOR FIRMS AND COUNTRY OF CONTROL

A.R. Clarke and Co. Ltd. (Cdn); Bata Industries Ltd. (Cdn); Bastien Bros. Inc. (Cdn); Brown Shoe Company of Canada Ltd. (US); Canada Packers Inc. (Cdn); Canada West Shoe Manufacturing (Cdn); Dominion Tanners (Cdn); Dimarcantonio Industries Inc. (Cdn); Robson-Lang Leather Ltd. (US); Susan Shoe Industries Ltd. (Cdn); United Canadian Shares Ltd. (Cdn).

7 PRODUCTS

Shoes (men, women, boys and girls)  
High and low boots  
Men's work and utility boots and shoes  
Sports and athletic footwear  
Rubber footwear  
Upper leather, shoe lining leather,  
glove leather

Handbags and purses  
Hard luggage, briefcases, wallets, etc.  
Leather gloves  
Heels, soles and findings



8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Leather Industries</u> (\$ million)	<u>All Manufacturing</u>
Assets	19.1	44.3
Sales	15.3	50.4
Profits	36.5	63.3

9 TECHNOLOGICAL SITUATION

	<u>Leather Industries</u>	<u>Percent of All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	2	0.1
Capital	*	*
TOTAL	2	0.1
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	3	0.33
General level of technology		

\* Too small to be expressed (under \$500,000).

10 ROLE OF GOVERNMENT

Import quotas and tariffs apply to a variety of products to allow the Canadian industry time to adjust to low-cost import competition. From mid-1981 until its phase-out after March 31, 1986, assistance under the Canadian Industrial Renewal Program has been provided mainly in the form of consulting and capital cost contributions to promote the restructuring of the industry. Footwear firms can now apply for federal assistance under the Industrial and Regional Development Program (IRDP). Export promotion assistance is available under the Program for Export Market Development (PEMD) and through the Export Development Corporation (EDC).

11 INDUSTRIAL RELATIONS

	<u>Leather Industries</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	4,260	0.3
Lost during 1986 <sup>7</sup>	3,780	0.3
Days lost as percent of total time worked (1986)	0.07	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Leather Industries</u>	<u>Percent of All Manufacturing</u>
Peak	1st Q, 1981	2nd Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery	remained below peak	2nd Q, 1985

Annual Activity Change

1982  
1983  
1984  
1985  
1986

Percentages

-15.9	-11.1
1.5	6.1
5.8	7.1
-1.9	4.7
0.3	1.7

13 LATEST GENERAL PERFORMANCEPercent change 1986-85

<u>Leather Industries</u>	<u>All Manufacturing</u>
---------------------------	--------------------------

- (a) Real production  
(b) Employment  
(c) Implied productivity ((a) less (b))  
(d) Average weekly wages and salaries  
(e) Implied unit labour costs ((c) less (d))

0.3	1.7
-9.0	2.1
9.3	-0.4
7.7	3.3
1.6	-3.7

## PRIMARY TEXTILES

1 SIZE AND STRUCTURE

	<u>Primary Textiles</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	2,873	1.1
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Spun yarn and woven cloth	59.3	
Man-made fibre and filament yarn	26.9	
Broad knitted fabric	13.8	
Estimated employment (numbers, 1986) <sup>1</sup>	25,398	1.4
Approximate concentration, top four enterprises percent of shipments (1982)	63.9*	
Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	81	98
Percent of employment	33*	47
Percent of shipments	34*	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Primary Textiles</u>	<u>All Manufacturing</u>
Quebec	53.8	24.4
Ontario	40.8	53.3
British Columbia	-	8.2
Other provinces	-	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Primary Textiles</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	2,873	1.1
Domestic exports	376	0.4
Domestic shipments	2,497	1.6
Imports <sup>3</sup>	1,683	1.7
Apparent market <sup>3</sup>	4,180	1.6

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Primary Textiles</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	13.1% of shipments	38.9
Import penetration (1986)	40.3% of apparent market	39.8
Major export clients, 1986 (percent)	United States	50.7
	EEC <sup>4</sup>	16.3
	Other OECD	8.1
	Non-OECD	24.9
Major import sources, 1985 (percent)	United States	41.9
	Japan	6.6
	EEC <sup>5</sup>	22.4
	Other OECD	3.8
	Non-OECD	25.3

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Textile Industries<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	95.1	105.9	132.8	1.1	0.9	1.0
Construction	13.1	11.1	12.3	0.5	0.5	0.5
TOTAL	108.2	117.0	145.1	0.9	0.8	1.0

	<u>1984</u>	<u>All Manufacturing 1984</u>
Profits as a percentage of sales of goods and services	3.1	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Amoco Fabrics Ltd. (US); Burlington Canada Inc. (US); Collie Woolen Mills Ltd. (Cdn); JWI Ltd. (Cdn); Keyser-Roth Canada Ltd. (Cdn); Marimac Ltd. (Cdn).

7 MAJOR PRODUCTS

Stale fibre	Acrylic, nylon, polyester
Filament yarns	Broad woven fabrics
Spun yarns (wool and wool blends)	Knitted fabrics (warp, double, broad knit)
Tire cord yarn	Felts

8 OWNERSHIP

	Percentage of Foreign Control, 1984	
	Textile Industries	All Manufacturing
	(\$ million)	
Assets	56.7	44.3
Sales	63.2	50.4
Profits	74.3	63.3

9 TECHNOLOGICAL SITUATION

	<u>Primary Textiles</u> (\$ million, 1986)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	7	0.3
Capital	1	0.3
TOTAL	8	0.3
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	8	0.87
General level of technology	Low	

10 ROLE OF GOVERNMENT

The industry has tariffs and bilateral restraint arrangements to help meet import competition. Federally funded programs to support the industrial adjustment process include the Canadian Industrial Renewal Program (CIRP) until its phase-out on March 31, 1986, and thereafter the Industrial and Regional Development Program (IRDP) under the auspices of the Department of Regional Industrial Expansion (DRIE). Export assistance is available under the Program for Export Market Development (PEMD) and through the Export Development Corporation (ECD). A variety of provincial programs are also available to complement federal programs.

11 INDUSTRIAL RELATIONS

	<u>Primary Textiles</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	35,550	2.3
Lost during 1986 <sup>7</sup>	7,530	0.5
Days lost as percent of total time worked (1986)	0.1	0.35

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)

<u>Comparative Cyclical Pattern</u>	<u>Primary Textiles</u>	<u>All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	2nd Q, 1982	4th Q, 1982
Recovery	remained below peak	2nd Q, 1985
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-19.1	-11.1
1983	18.0	6.1
1984	-3.6	7.1
1985	-1.9	4.7
1986	5.1	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Primary Textiles</u>	<u>Percent change 1986-85</u> <u>All Manufacturing</u>
(a) Real production	5.1	1.7
(b) Employment	2.5	2.1
(c) Implied productivity ((a) less (b))	2.6	-0.4
(d) Average weekly wages and salaries	2.9	3.3
(e) Implied unit labour costs ((c) less (d))	-0.3	-3.7



## TEXTILE PRODUCTS

1 SIZE AND STRUCTURE

	<u>Textile Products</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	2,772	1.1
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Other textile products	64.6	
Carpet, mat and rug industry	27.6	
Canvas and related products	4.4	
Natural fibres processing and felt products	4.4	
Estimated employment (numbers, 1986) <sup>1</sup>	35,571	2.0
Approximate concentration, top four enterprises percent of shipments (1982)	35*	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	61	98
Percent of employment	61*	47
Percent of shipments	46*	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Textile Products</u>	<u>All Manufacturing</u>
Quebec	47.9	24.4
Ontario	44.7	53.3
British Columbia	-	8.2
Other provinces	1.2	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Textile Products</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	2,772	1.1
Domestic exports	194	0.2
Domestic shipments	2,578	1.7
Imports <sup>3</sup>	713	0.7
Apparent market <sup>3</sup>	3,291	1.3

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Textile Products</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	7.0% of shipments	38.9
Import penetration (1986)	21.7% of apparent market	39.8
Major export clients, 1986 (percent)	United States	74.4
	EEC <sup>4</sup>	5.9
	Other OECD	7.6
	Non-OECD	12.1
Major import sources, 1985 (percent)	United States	45.8
	Japan	3.0
	EEC <sup>5</sup>	18.3
	Other OECD	6.6
	Non-OECD	26.3

4 Includes Portugal and Spain

5 Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Textile Products</u> <sup>6</sup>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
New capital expenditures						
Machinery and equipment	67.4	98.1	85.7	0.7	0.8	0.7
Construction	13.1	20.2	8.8	0.5	0.8	0.4
TOTAL	80.5	118.3	94.5	0.7	0.8	0.6
	<u>1984</u>			<u>All Manufacturing 1984</u>		
Profits as a percentage of sales of goods and services	4.1			4.0		

6 Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Albany International Canada Inc. (US); Burlington Canada Inc. (US); Celanese Canada Inc. (US); Consoltex Inc. (UK/Japan); Dominion Textiles Inc. (Cdn); Dupont Canada Inc. (US); Harding Carpets Ltd. (Cdn); JWI Ltd. (Cdn); Kayser-Roth Canada Ltd. (Cdn); Peerles Carpet Corp. (US/Cdn).

7 MAJOR PRODUCTS

Felts, canvas and canvas products

Laces, narrow fabrics

Household products of textile materials

Sleeping bags

Hygienic products of textile materials

Dyeing and finishing of textile fabrics and yarns

Printing, painting, bleaching, shrinking of textile fabrics and yarns

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Textile Products</u>	<u>Percent of All Manufacturing</u>
	(\$ million)	
Assets	40.1	44.3
Sales	39.3	50.4
Profits	49.3	63.3

9 TECHNOLOGICAL SITUATION

	<u>Textile Products</u> (\$ million, 1986)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	5	0.2
Capital	1	0.3
TOTAL	6	0.2
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	8	0.87
General level of technology	Low	

10 ROLE OF GOVERNMENT

In addition to tariff protection and bilateral restraint arrangements, this sector has benefited from a wide range of government assistance programs such as the Canadian Industrial Renewal Program (CIRP). The Canadian Industrial Renewal Board's (CIRB) five-year mandate to support the industrial process in this sector expired on March 31, 1986. Following the termination of CIRP, textile firms and CIRB special areas became eligible for assistance under DRIE's Industrial and Regional Development Program (IRDP). Export promotion assistance is available under the Program for Export Market Development (PEMD) and through the Export Development Corporation (EDC).

11 INDUSTRIAL RELATIONS

	<u>Textile Products</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	36,690	2.3
Lost during 1986 <sup>7</sup>	2,190	0.2
Days lost as percent of total time worked (1986)	0.02	0.3

7 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)

<u>Comparative Cyclical Pattern</u>	<u>Textile Products</u>	<u>All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	2nd Q, 1982	4th Q, 1982
Recovery	2nd Q, 1984	2nd Q, 1985
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-11.2	-11.1
1983	17.2	6.1
1984	0.7	7.1
1985	0.5	4.7
1986	2.9	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Textile Products</u>	<u>All Manufacturing</u>
(a) Real production	3.0	1.7
(b) Employment	1.8	2.1
(c) Implied productivity ((a) less (b))	1.2	-0.4
(d) Average weekly wages and salaries	2.0	3.3
(e) Implied unit labour costs ((c) less (d))	-0.8	-3.7

## CLOTHING INDUSTRIES

1 SIZE AND STRUCTURE

	<u>Clothing Industries</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	5,704	2.3
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Men's clothing industries	31.9	
Women's clothing industries	30.5	
Other clothing and apparel industries	30.7	
Children's clothing industries	7.0	
Estimated employment (numbers, 1986) <sup>1</sup>	117,341	6.5
Approximate concentration top four enterprises percent of shipments (1982)	17.2*	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	96	98
Percent of employment	68	47
Percent of shipments	66	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Clothing Industries</u>	<u>All Manufacturing</u>
Quebec	61.4	24.4
Ontario	26.3	53.3
British Columbia	3.0	8.2
Other provinces	6.4	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Clothing Industries</u> <u>(\$ million, 1984)</u>	<u>Percent of All Manufacturing</u>
Shipments	5,704	2.3
Domestic exports	396	0.4
Domestic shipments	5,308	3.5
Imports <sup>3</sup>	2,050	2.0
Apparent market <sup>3</sup>	7,358	2.9

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.



4 EXTERNAL TRADE

	<u>Clothing Industries</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	6.9% of shipments	38.9
Import penetration (1986)	27.9% of apparent market	39.8
Major export clients, 1986 (percent)	United States	84.4
	Japan	5.1
	Other OECD	4.1
	Non-OECD	4.0
Major import sources, 1985 (percent)	United States	5.5
	Japan	1.6
	EEC <sup>5</sup>	14.8
	Other OECD	2.2
	Non-OECD	75.9

4 Includes Portugal and Spain

5 Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Clothing Industries<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	38.9	47.5	49.2	0.4	0.4	0.4
Construction	7.5	4.9	8.5	0.3	0.2	0.3
TOTAL	46.4	52.4	57.1	0.4	0.4	0.4
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as a percentage of sales of goods and services	2.7	4.0				

6 Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Algo Industries Ltd. (Cdn); Canadian Lady Canadelle (US); Cluett Peabody Canada Inc. (US); Dales Inc. (Cdn); Dylex Ltd. (Cdn); Great Northern Apparel Inc. (US); H.D. Lee of Canada Ltd. (US); Harvey Woods Ltd. (Cdn); Levi Strauss Canada Inc. (US); Masom Manufacturing Co. Ltd. (Cdn); Tanjay International Ltd. (Cdn); Warnaco of Canada Inc. (US) Wescott Fashions Ltd. (Cdn).

7 PRODUCTS

Overcoats, topcoats, short coats, suits, jackets, sweaters, pants, shirts, snowmobile suits, ski suits, sportswear

Women's and girls' dresses, blouses, skirts, tops, undergarments and hoseries

Men's and boys' undergarments

Infants' and toddlers' clothes

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Clothing Industries</u>	<u>All Manufacturing</u>
	(\$ million)	
Assets	10.2	44.3
Sales	9.2	50.4
Profits	10.7	63.3

9 TECHNOLOGICAL SITUATION

Clothing Industries  
(\$ million, 1986)

Percent of  
All Manufacturing

Intramural R&D outlays

Data on current, capital and total outlays is confidential to meet secrecy requirements of the Statistics Act

Number of persons engaged in R&D in 1984

n/a

Number of firms engaged in R&D in 1984

0.33

General level of technology

Low

10 ROLE OF GOVERNMENT

The industry operates with trade protection in the form of import restraints and tariffs. Under a five-year program terminated at the end of March 1986, the Canadian Industrial Renewal Board (CIRB) provided financial assistance to facilitate the rationalization and restructuring of the industry and reduce reliance on government measures to protect the industry from international competition. Industrial assistance is provided under DRIE's Industrial and Regional Development Program (IRDP). Export promotion assistance is also available under the Program for Export Market Development (PEMD) and through the Export Development Corporation (EDC).

11 INDUSTRIAL RELATIONS

Clothing Industries

Percent of  
All Manufacturing

Days lost

Average, 1983-85

29,207

1.9

Lost during 1986<sup>7</sup>

631,600

4.7

Days lost as percent of total time worked (1986)<sup>7</sup>

0.2

0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

Clothing Industries

Percent of  
All Manufacturing

Peak

1st Q, 1981

2nd Q, 1981

Trough

3rd Q, 1982

4th Q, 1982

Recovery

3rd Q, 1986

2nd Q, 1985

Annual Activity ChangePercentage

1982

-11.0

-11.1

1983

5.2

6.1

1984

5.0

7.1

1985

0.2

4.7

1986

3.8

1.7

13 LATEST GENERAL PERFORMANCE

Clothing Industries

Percent change 1986-85  
All Manufacturing

(a) Real production

3.8

1.7

(b) Employment

3.7

2.1

(c) Implied productivity ((a) less (b))

0.1

-0.4

(d) Average weekly wages and salaries

2.4

3.3

(e) Implied unit labour costs ((c) less (d))

-2.3

-3.7

## WOOD INDUSTRIES

1 SIZE AND STRUCTURE

	<u>Wood Industries</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	12,227	4.9
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Sawmills, planing and shingle mills	64.2	
Millworking plants	17.4	
Other wood industries	8.1	
Veneer and plywood mills	8.0	
Wood box and pallet industry	1.9	
Coffin and casket industry	0.4	
Estimated employment (numbers, 1986) <sup>1</sup>	108,885	6.0
Approximate concentration, top four enterprises percent of shipments (1982)	23.1*	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	97	98
Percent of employment	66*	47
Percent of shipments	67*	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Wood Industries</u>	<u>All Manufacturing</u>
Quebec	23.0	24.4
Ontario	20.0	53.3
British Columbia	45.4	8.2
Other provinces	10.6	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Wood Industries</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
Shipments	12227	4.9
Domestic exports	6156	6.3
Domestic shipments	6071	3.9
Imports <sup>3</sup>	752	0.7
Apparent market <sup>3</sup>	6823	2.7

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Wood Industries</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	50.4% of shipments	38.9
Import penetration (1986)	11.0% of apparent market	39.8
Major export clients, 1986 (percent)	United States	80.8
	Japan	8.0
	EEC <sup>4</sup>	8.7
	Other OECD	1.4
	Non-OECD	1.1
Major import sources, 1985 (percent)	United States	83.3
	EEC <sup>5</sup>	2.3
	Other OECD	2.1
	Non-OECD	12.3

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Wood Industries<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	265.3	352.8	471.4	3.0	3.1	3.7
Construction	61.9	77.7	73.3	2.4	3.2	3.0
TOTAL	327.2	430.5	544.7	2.8	3.1	3.6

	<u>1984</u>	<u>All Manufacturing 1984</u>
Profits as a percentage of sales of goods and services	1.6	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Balco Industries Ltd. (Cdn); British Columbia Forest Products Ltd. (Cdn); Canadian Forest Products Ltd. (Cdn); Crestbrook Forest Industries Ltd. (Japan); Doman Forest Products Ltd. (Cdn); Domtar Inc. (Cdn); Great Lakes Forest Products (Cdn); J.D.Irving Ltd. (Cdn); MacMillan-Bloedel Ltd. (Cdn); Normick Perron Inc. (Cdn); Weldwood of Canada Ltd. (US); Whonnock Industries Ltd. (Cdn).

7 PRODUCTS

Lumber (all types)	Treated wood
Wood chips	Prefabricated buildings (all types)
Shingles and shakes	Cabinets and vanities
Plywood (all types)	Doors and windows
Veneer (all types)	Moulding and other millwork products
Particleboard and waferboard	Boxes and pallets
Wooden caskets and coffins	

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Wood Industries</u> (\$ million)	<u>All Manufacturing</u>
Assets	13.0	44.3
Sales	12.8	50.4
Profits	18.9	63.3

9 TECHNOLOGICAL SITUATION

	<u>Wood Industries</u>	<u>Percent of All Manufacturing</u>
<u>Intramural R&amp;D outlays</u> <sup>7</sup>		
Current	17	0.72
Capital	1	0.27
TOTAL	18	0.66
Number of persons engaged in R&D in 1984	270	0.95
Number of firms engaged in R&D in 1984	7	0.76
General level of technology	Largely established	

<sup>7</sup> Includes data for furniture and fixtures.

10 ROLE OF GOVERNMENT

Federal financial assistance is available to the industry under a variety of programs, notably the Industrial and Regional Development Program (IRDP) and the Special Agricultural and Rural Development Act (SARDA). Export promotion assistance is available under the Program for Export Market Development (PEMD) and through the Export Development Corporation (EDC). The government recently imposed a 15 percent export tax on softwood lumber in response to US protectionist measures. Some regulations to protect the environment and a host of provincial timber rights and licensing requirements apply to the logging industry.

11 INDUSTRIAL RELATIONS

	<u>Wood Industries</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	102,610	6.5
Lost during 1986 <sup>8</sup>	166,630	12.5
Days lost as percent of total time worked (1986)	0.02	0.3

<sup>8</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-84 (Real Output)

<u>Comparative Cyclical Pattern</u>	<u>Wood Industries</u>	<u>All Manufacturing</u>
Peak	1st Q, 1981	2nd Q, 1981
Trough	3rd Q, 1981	4th Q, 1982
Recovery	3rd Q, 1985	2nd Q, 1985
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-15.1	-11.1
1983	22.8	6.1
1984	2.0	7.1
1985	8.3	4.7
1986	-2.0	1.7



13 LATEST GENERAL PERFORMANCE

	Percent change 1986-85	
	<u>Wood Industries</u>	<u>All Manufacturing</u>
(a) Real production	-2.0	1.7
(b) Employment	1.2	2.1
(c) Implied productivity ((a) less (b))	-3.2	-0.4
(d) Average weekly wages and salaries	0.1	3.3
(e) Implied unit labour costs ((c) less (d))	-3.3	-3.7

## FURNITURE AND FIXTURES

1 SIZE AND STRUCTURE

	<u>Furniture and Fixtures</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million 1986) <sup>1</sup>	3,671	1.5
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Other furniture and fixtures	44.2	
Household furniture industries	37.0	
Office furniture industries	18.8	
Estimated employment (number 1986) <sup>1</sup>	59,283	3.3
Approximate concentration, top four enterprises percent of shipments (1982)	18.8*	
Share of activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	98	98
Percent of employment	75*	47
Percent of shipments	53*	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Furniture and Fixtures</u>	<u>All Manufacturing</u>
Quebec	29.7	24.4
Ontario	57.6	53.3
British Columbia	4.0	8.2
Other provinces	8.6	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Furniture and Fixtures</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	3,671	1.5
Domestic exports	81.5	0.8
Domestic Shipments	2,856	1.9
Imports <sup>3</sup>	535	0.5
Apparent market <sup>3</sup>	3,391	1.3

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Furniture and Fixtures</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	22.2% of shipments	38.9
Import penetration (1986)	15.8% of apparent market	39.8

Major export clients, 1986 (percent)	United States	95.5
	EEC <sup>4</sup>	1.1
	Other OECD	0.8
	Non-OECD	2.6
Major import sources, 1985 (percent)	United States	46.2
	ECC <sup>5</sup>	27.4
	Other OECD	9.8
	Non-OECD	16.6

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

## 5 INVESTMENT AND PROFITABILITY

	Furniture and Fixtures <sup>6</sup>			Percent of All Manufacturing		
	1985	1986	1987	1985	1986	1987
	(\$ million)					
New capital expenditures						
Machinery and equipment	35.0	44.1	52.7	0.4	0.4	0.4
Construction	26.9	23.6	19.0	1.0	1.0	1.0
TOTAL	61.9	67.7	71.7	0.5	0.5	0.5

	1984	All Manufacturing
Profits as a percentage of sales of goods and services	2.6	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

## 6 MAJOR FIRMS AND COUNTRY OF CONTROL

Artopex Inc. (Cdn); Commodore Business Machines Ltd., (Bahamas); Croydon Furniture Systems Inc. (Cdn); Electrohome Ltd. (Cdn); Meubles Princeville Inc. (Cdn); Meubles Vilegois Inc. (Cdn); Palliser Furniture Ltd. (Cdn); Shermag Inc. (Cdn); Simmons Ltd. (US); Sunar Houserman Ltd. (Cdn).

## 7 PRODUCTS

Household furniture (wooden, metal)	Special purpose furniture
Office furniture	Furniture components
Hotel and restaurant furniture	Filing equipment
Hospital and institutional furniture and fixtures	Bedsprings, mattresses

## 8 OWNERSHIP

	Percentage of Foreign Control, 1984	
	Furniture and Fixtures	All Manufacturing
Assets	19.6	44.3
Sales	14.9	50.4
Profits	28.7	63.3

## 9 TECHNOLOGICAL SITUATION

	Furniture and Fixtures	Percent of All Manufacturing
Intramural outlays		
Current	Combined with wood products	
Capital		
TOTAL		
Number of persons engaged in R&D in 1984	n/a	
Number of firms engaged in R&D in 1984	7	1.76
General level of technology	Low	

10 ROLE OF GOVERNMENT

The industry is subject to little federal regulation. Federal assistance programs are generally of the umbrella type with funds provided under the former Canadian Industrial Renewal Program (CIRP) and the current Industrial and Regional Development Program (CIRDP). DRIE's Special Agricultural and Rural Development Act (SARDA) is also a major source of assistance for the industry. R&D programs such as the Industrial Research Assistance Program (IRAP) and the Program for Industry/Laboratory Projects (PILP) are available under the auspices of the National Research Council (NRC). Federal support for export development is available under the Program for Export Market Development (PEMD) and the Promotional Projects Program (PPP). Federal procurement office furniture is administered by Supply and Services Canada subject to the GATT code on government procurement.

11 INDUSTRIAL RELATIONS

	<u>Furniture and Fixtures</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	39,887	2.5
Lost during 1986	33,430	2.5
Days lost as percent of total time worked (1986) <sup>7</sup>	0.5	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Furniture and Fixtures</u>	<u>Percent of All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	3rd Q, 1982	4th Q, 1982
Recovery	4th Q, 1986 <sup>8</sup>	2nd Q, 1985

<sup>8</sup> Very nearly regained previous peak.

<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-20.8	-11.1
1983	10.6	6.1
1984	2.3	7.1
1985	9.6	4.7
1986	4.3	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Furniture and Fixtures</u>	<u>Percent change 1986-85 All Manufacturing</u>
(a) Real production	4.3	1.7
(b) Employment	17.49	2.1
(c) Implied productivity ((a) less (b))	-13.2	-0.4
(d) Average weekly wages and salaries	3.9	3.3
(e) Implied unit labour costs ((c) less (d))	-17.1	-3.7

## PAPER AND ALLIED INDUSTRIES

1 SIZE AND STRUCTURE

	<u>Paper and Allied Ind</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	19,501	7.8
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Pulp and paper industries	75.0	
Paper box and bag industries	12.8	
Other converted paper products	10.1	
Asphalt roofing industry	2.0	
Estimated employment (numbers, 1986) <sup>1</sup>	117,574	6.5
Approximate concentration, top four enterprises percent of shipments (1982)	41.3	
<u>Share of activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	78	98
Percent of employment	23	47
Percent of shipments	20	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	<u>All Manufacturing</u>
	<u>Paper and Allied Ind</u>	
Quebec	28.5	24.4
Ontario	50.9	53.3
British Columbia	-	8.2
Other provinces	11.6	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Paper and Allied Ind</u>	<u>Percent of All Manufacturing</u>
	<u>(\$ million, 1984)</u>	
Shipments	19,501	7.8
Domestic exports	11,467	11.7
Domestic shipments	8,034	5.2
Imports <sup>3</sup>	1,355	1.3
Apparent market <sup>3</sup>	9,389	3.7

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Paper and Allied Ind</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	58.8% of shipments	38.9
Import penetration (1986)	14.4% of apparent market	39.8



## Major export clients, 1986 (percent)

United States	71.3
Japan	5.9
EEC <sup>4</sup>	12.3
Other OECD	1.8
Non-OECD	8.7

## Major import sources, 1985 (percent)

United States	79.0
EEC <sup>5</sup>	8.9
Other OECD	8.0
Non-OECD	4.1

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Paper and Allied Ind<sup>6</sup></u>			<u>Percent of</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	1,772.1	1,656.8	2,095.6	19.8	14.4	16.5
Construction	263.5	232.8	311.5	10.3	9.6	12.9
TOTAL	2,035.6	1,889.6	2,407.1	17.7	13.6	15.9

	<u>1984</u>	<u>All Manufacturing 1984</u>
Profits as a percentage of sales of goods and services	3.4	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Abitibi-Price Inc. (Cdn); Appleton Paper Canada Ltd. (US); Aspanill Inc. (Cdn); Boise-Cascade Canada Inc. (US); Bonar Packaging Ltd. (UK); Bondware Division Dover Industries Ltd. (Cdn); Berkeley Wall Coverings Inc. (US); Belkin Packaging Ltd. (Cdn); Beaver Wood Fibre Ltd. (US); Building Products of Canada Ltd. (US); CIP Inc. (Cdn); Cascades Inc. (Cdn); Consolidated Bathurst Inc. (Cdn); Cutting International Ltd. (Cdn); DRG Packaging Inc. (UK); Dixie Canada Ltd. (US); Domtar Inc. (Cdn); E.B. Eddy Forest Products Ltd. (Cdn); Fraser Inc. (Cdn); Great Lakes Forest Products (Cdn); Kimberley-Clark of Canada Ltd. (US); Kruger Inc. (Cdn); La Compagnie Price Limitée (Cdn); MacMillan Bloedel Ltd. (Cdn); Sancellia Inc. (US/Swedish); Scott Paper Ltd. (US); Sonoco Ltd. (US); Twinpak Inc. (Cdn).

7 PRODUCTS

Basic paper and paperboard	Plastic bags and folding cartons
Wood pulp	Asphalt roofing products
Building board, converted paper products	Envelopes and labels
Corrugated boxes	Papers (all types)
Paper boxes and folding cartons	Foil, laminated with paper

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Paper and Allied Ind</u>	<u>All Manufacturing</u>
	(\$ million)	
Assets	25.0	44.3
Sales	25.8	50.4
Profits	33.8	63.3

9 TECHNOLOGICAL SITUATION

	<u>Paper and Allied Ind</u> (\$ million, 1986)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u> <sup>7</sup>		
Current	67	2.83
Capital	18	4.85
TOTAL	85	3.1
Number of persons engaged in R&D in 1984	945	3.31
Number of firms engaged in R&D in 1984	26	2.83
General level of technology	Established to advanced	

7 Includes pulp

10 ROLE OF GOVERNMENT

Federal assistance programs mainly support the industry's fine paper sector (book, writing and coated paper) and its pulp and paper sector (newsprint and uncoated groundwood printing paper). The Pulp and Paper Modernization Program, the Industrial and Regional Development Program (IRDP) and federal-provincial industrial agreements under the ERDA have benefited the fine paper and pulp industries. R&D programs operated by the National Research Council include the Industrial Research Assistance Program (IRAP) and the Program for Industry/Laboratory Projects (PILP). The Pulp and Research Institute is another notable source for R&D programs. Export promotion assistance is available under the Program for Export Market Development (PEMP) and through the Export Development Corporation (EDC).

11 INDUSTRIAL RELATIONS

	<u>Paper and Allied Ind</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	255,927	16.2
Lost during 1986 <sup>8</sup>	21,180	1.6
Days lost as percent of total time worked (1986)	0.07	0.3

8 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Paper and Allied Ind</u>	<u>Percent of</u> <u>All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	3rd Q, 1982	4th Q, 1982
Recovery	3rd Q, 1984	2nd Q, 1985

<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-11.5	-11.1
1983	10.8	6.1
1984	3.3	7.1
1985	3.7	4.7
1986	5.8	1.7

13 LATEST GENERAL PERFORMANCE

	Percent change 1986-85	
	<u>Paper and Allied Ind</u>	<u>All Manufacturing</u>
(a) Real production	5.8	1.7
(b) Employment	2.8	2.1
(c) Implied productivity ((a) less (b))	3.0	-0.4
(d) Average weekly wages and salaries	4.4	3.3
(e) Implied unit labour costs ((c) less (d))	-1.4	-3.7

## PRINTING AND PUBLISHING

1 SIZE AND STRUCTURE

	<u>Printing and Publishing</u>	<u>Percent of All Manufacturing</u>
Shipments (\$ million, 1986) <sup>1</sup>	10,266	4.1
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Commercial printing	46.8	
Publishing and printing	27.1	
Publishing only	16.7	
Platemaking, typesetting etc	9.4	
Estimated employment (numbers, 1986) <sup>1</sup>	122,205	6.7
Approximate concentration, top four enterprises percent of shipments (1982)	34.2	
Share of activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	99	98
Percent of employment	63	47
Percent of shipments	60	40

<sup>1</sup> Published survey data adjusted for more recent account year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Printing and Publishing</u>	<u>All Manufacturing</u>
Quebec	28.5	24.4
Ontario	50.9	53.3
British Columbia	-	8.2
Other provinces	11.6	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes

3 APPARENT MARKET

	<u>Printing and Publishing</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
Shipments	10,266	4.1
Domestic exports	634	0.7
Domestic Shipments	9,632	6.3
Imports <sup>3</sup>	1,509	1.5
Apparent market <sup>3</sup>	11,141	4.4

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Printing and Publishing</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	6.2% of shipments	38.9
Import penetration (1986)	13.5% of apparent market	39.8

Major export clients, 1986 (percent)	United States	93.7
	EEC <sup>4</sup>	3.7
	Other OECD	1.0
	Non-OECD	1.6
Major import sources, 1985 (percent)	United States	86.4
	EEC <sup>5</sup>	10.8
	Other OECD	1.8
	Non-OECD	1.0

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

### 5 INVESTMENT AND PROFITABILITY

	Printing and Publishing <sup>6</sup>			Percent of All Manufacturing		
	1985	1986	1987	1985	1986	1987
	(\$ million)					
New capital expenditures						
Machinery and equipment	237.5	234.9	331.3	2.6	2.0	2.6
Construction	27.4	33.9	31.2	1.1	1.4	1.3
TOTAL	264.9	268.8	362.5	2.3	1.9	2.4
	1984			All Manufacturing 1984		
Profits as a percentage of sales of goods and services	6.5			4.0		

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

### 6 MAJOR FIRMS AND COUNTRY OF CONTROL

Cairn Capital Inc. (Cdn); Canadian Corporate Management Co. Ltd. (Cdn); Canadian Publishing Corporation (Cdn); Formules d'affaires Lancaster Ltée. (Cdn); Holt Rinehart & Winston Canada (US); Hume Publishing Co. (Cdn); Lawson Business Forms Manitoba Ltd. (Cdn); Maclean Hunter Ltd. (Cdn); Moore Corporation Ltd. (Cdn); R.L. Crain Inc. (Cdn); Rolands Federated Ltd. (Cdn); Southam Inc. (Cdn); Thompson Newspapers Ltd. (Cdn); Toronto Star Publishing (Cdn); Torstar Corporation (Cdn).

### 7 PRODUCTS

Advertising matter	Newspapers
Continuous forms	Labels and tags
Business Forms	Books printed for publishers
Magazines, religious publications, etc.	Greeting cards
Directories	Charts and maps

### 8 OWNERSHIP

	Percentage of Foreign Control, 1984	
	Printing and Publishing	All Manufacturing
	(\$ million)	
Assets	10.5	44.3
Sales	11.6	50.4
Profits	11.3	63.3

### 9 TECHNOLOGICAL SITUATION

	Printing and Publishing	Percent of All Manufacturing
Intramural R&D outlays		
Current	4	0.2
Capital	1	0.3
TOTAL	5	0.2
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	11	1.20
General level of technology	Low	



10 ROLE OF GOVERNMENT

Federal government policies apply to taxation, tariffs, public procurement, postal services and copyright and assistance programs such as DRIE's Industrial and Regional Development Program (IRDP). The Canadian Book Publishing Development Program (under the Department of Communications) provides financial assistance to Canadian publishers. The Canada Council awards grants for literary and arts periodicals, while the Science and Humanities Research Council supports learned periodicals. R&D activities are promoted under the auspices of the National Research Council through such programs as the Industrial Research Assistance Program (IRAP) and the program for Industry/Laboratory Projects (PILP). In addition to the review of large-scale takeovers, new business proposals and smaller acquisitions by investors from abroad may be subject to review under special provisions of the Investment Canada Act which apply to publishing and certain other cultural industries. Many of the products manufactured by the commercial printing sector are subject to the provisions of the Canadian Copyright Act. A variety of provincial programs assist firms in the printing and publishing fields.

11 INDUSTRIAL RELATIONS

	<u>Printing and Publishing</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	34,607	2.2
Lost during 1986 <sup>7</sup>	8,700	0.7
Days lost as percent of total time worked (1986)	0.1	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)

<u>Comparative Cyclical Pattern</u>	<u>Printing and Publishing</u>	<u>All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	3rd Q, 1982	4th Q, 1982
Recovery	3rd Q, 1984	2nd Q, 1985
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-4.7	-11.1
1983	7.5	6.1
1984	5.3	7.1
1985	3.0	4.7
1986	6.3	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Printing and Publishing</u>	<u>Percent change 1986-85 All Manufacturing</u>
(a) Real production	6.3	1.7
(b) Employment	5.5	2.1
(c) Implied productivity ((a) less (b))	0.8	-0.4
(d) Average weekly wages and salaries	3.0	4.7
(e) Implied unit labour costs ((c) less (d))	6.3	1.7

## PRIMARY METALS

1 SIZE AND STRUCTURE

	<u>Primary Metals</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	16,874	6.7
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Primary steel industries	45.3	
Non-ferrous smelting and refining	26.7	
Aluminum rolling and casting	8.8	
Steel pipe and tube industry	6.8	
Other rolled and cast non-ferrous metals	4.9	
Iron foundaries	4.6	
Copper and alloy rolling and casting	2.9	
Estimated employment (numbers, 1986) <sup>1</sup>	101,067	5.6
Approximate concentration, top four enterprises percent of shipments (1982)	76.1*	
<u>Share of activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	80	96
Percent of employment	15	47
Percent of shipments	16	40

<sup>1</sup> Published survey data adjusted for more recent reference year

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Primary Metals</u>	<u>All Manufacturing</u>
Quebec	29.7	24.4
Ontario	58.9	53.3
British Columbia	4.8	8.2
Other provinces	5.2	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Primary Metals</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
Shipments	16,874	6.7
Domestic exports	9,547	9.8
Domestic shipments	7,327	4.8
Imports <sup>3</sup>	4,796	4.7
Apparent market <sup>3</sup>	12,123	4.7

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Primary Metals</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	36.6% of shipments	38.9
Import penetration (1986)	39.6% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	80.2
	EEC <sup>4</sup>	4.2
	Other OECD	1.9
	Non-OECD	13.7
Major import sources, 1985 (percent)		
	United States	67.9
	Japan	5.6
	EEC <sup>5</sup>	14.9
	Other OECD	4.2
	Non-OECD	7.4

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Primary Metals<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
New capital expenditures						
Machinery and equipment	1,019.0	1,315.8	1,500.5	11.4	11.4	11.8
Construction	593.8	334.3	290.7	23.1	13.8	12.1
TOTAL	1,612.8	1,650.1	1,791.2	14.0	11.9	11.8
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as a percentage of sales of goods and services	3.0	4.0				

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Alcan Canada Products Ltd. (Cdn); Alcan Smelters & Chemicals Ltd. (Cdn); Alumenerie de Becancour (French); Algoma Steel Corp. Ltd. (Cdn); Bibby Ste. Croix Foundries Ltd. (Cdn); Canada Metal Co. Ltd. (US); Canron Inc. (Cdn); Dofasco Inc. (Cdn); Esco Ltd. (US); Indal Ltd. (UK); Ipsco (Cdn); Ivaco Inc. (Cdn); Lake Ontario Steel Co. Ltd. (Cdn); Massey-Ferguson Ltd. (Cdn); Rio Algom Ltd. (UK); Sidbec-Dosco Ltd. (Cdn); Standard Tube Canada Inc. (UK); Stelco Inc. (Cdn).

7 PRODUCTS

Rolled steel products	Steel ingots and wire rods
Steel pipe and tubing	Steel and iron castings
Structural steel shapes, (unfabricated)	Structural aluminum shapes
Smelting and refining	Cut iron pipes and fittings

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Primary Metals</u>	<u>All Manufacturing</u>
Assets	17.7	44.3
Sales	16.2	50.4
Profits	28.1	63.3

9 TECHNOLOGICAL SITUATION

	<u>Primary Metals</u> (\$ million, 1986)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	131	5.54
Capital	6	1.62
TOTAL	137	5.04
Number of persons engaged in R&D in 1984	1,575	5.52
Number of firms engaged in R&D in 1984	24	2.61
General level of technology	Largely established	

10 ROLE OF GOVERNMENT

Small-scale federal financial assistance under DRIE's Industrial and Regional Development Program has been provided to assist in R&D, modernization and expansion of steel mills. The ferrous casting sector enjoys economies of scale in production by virtue of the Canadian content and duty free access provisions of the Canada-US Auto Pact. In aluminium smelting, provincial government policies relating to water rights, taxes and power rates have acted as investment incentives. The National Research Council, through such programs as the Industrial Research Assistance Program (IRAP) and the Program for Industry/Laboratory Projects (PILP), encourages R&D activity specific to the industry. Export promotion assistance is available under the Program for Export Market Development and through the Export Development Corporation (EDC). Many provinces have programs for industrial development available to firms in this area.

11 INDUSTRIAL RELATIONS

	<u>Primary Metals</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	64,477	4.1
Lost during 1986 <sup>7</sup>	135,280	10.2
Days lost as percent of total time worked (1986)	0.5	0.3

7 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Primary Metals</u>	<u>Percent of</u> <u>All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	3rd Q, 1982	4th Q, 1982
Recovery	Remained below peak	2nd Q, 1985

<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-23.0	-11.1
1983	13.6	6.1
1984	14.5	7.1
1985	0.3	4.7
1986	-0.5	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Primary Metals</u>	<u>All Manufacturing</u>
(a) Real production	-0.5	1.7
(b) Employment	-3.6	2.1
(c) Implied productivity ((a) less (b))	3.1	-0.4
(d) Average weekly wages and salaries	2.5	3.3
(e) Implied unit labour costs ((c) less (d))	0.6	-3.7

## FABRICATED METALS

1 SIZE AND STRUCTURE

	<u>Fabricated Metals</u>	<u>Percent of All Manufacturing</u>
Shipments (\$ million, 1986) <sup>1</sup>	14,432	5.7
<u>Major sub-sectors as percent of sector shipments (1986)</u>		
Metal stamping and casting industries	30.7	
Wire and wire products industries	13.0	
Fabricated structural metal industry	12.9	
Other metal fabricating industries	11.8	
Hardware tool and cutlery industries	9.3	
Ornamental and architectural fabricating	8.9	
Machine shop industries	6.7	
Heating equipment manufacturers	2.9	
Estimated employment (number, 1986) <sup>1</sup>	160,526	8.9
Approximate concentration, top four enterprises percent of shipments (1982)	36*	
Share of activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	99	98
Percent of employment	70	47
Percent of shipments	76	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Fabricated Metals</u>	<u>All Manufacturing</u>
Quebec	25.8	24.4
Ontario	57.6	53.3
British Columbia	6.5	8.2
Other provinces	9.1	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Fabricated Metals</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	14,432	5.7
Domestic exports	3,014	3.1
Domestic shipments	11,418	7.4
Imports <sup>3</sup>	4,396	3.4
Apparent market <sup>3</sup>	14,914	5.8

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.



4 EXTERNAL TRADE

	<u>Fabricated Metals</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	20.9% of shipments	38.9
Import penetration (1986)	23.4% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	67.9
	EEC <sup>4</sup>	3.7
	Other OECD	1.1
	Non-OECD	27.3
Major import sources, 1985 (percent)		
	United States	71.1
	Japan	5.3
	EEC <sup>5</sup>	12.3
	Other OECD	3.2
	Non-OECD	8.1

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Fabricated Metals<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	438.7	564.0	370.4	4.9	4.9	2.9
Construction	133.6	150.2	126.7	5.2	6.2	5.2
TOTAL	572.3	714.2	497.1	5.0	5.1	3.3

	<u>1984</u>	<u>All Manufacturing 1984</u>
Profits as a percentage of sales of goods and services	3.6	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Alcan Canada Products Ltd.(Cdn); AMCA International Ltd.(Cdn); American Can Canada Inc.(US); Canron Inc. (Cdn); Combustion Engineering Superheater (US); Crown, Cork and Seal Canada Inc. (US); Duomatic Olsen Inc. (Cdn); Greening Donald Co. Ltd.(West Germany); Household MFG Inc. (Cdn); Indal Ltd.(UK); Ivaco Inc.(Cdn); Noranda Metal Industries Ltd. (Cdn); Waltec Enterprises Ltd. (Cdn).

7 PRODUCTS

Stampings (all metals)	Metal windows and doors (all types)
Cans (food and non-food)	Dies and moulds (all types)
Boilers, furnaces and air conditioners (all types)	Wire and wire products (all types)
Builders and shelf hardware	Metal tanks and other closures
Prefabricated industrial buildings	Metal flooring, roofing and siding

8 OWNERSHIP

	Percentage of Foreign Control, 1984	
	<u>Fabricated Metals</u> (\$ million)	<u>All Manufacturing</u>
Assets	29.6	44.3
Sales	28.6	50.4
Profits	33.9	63.3

9 TECHNOLOGICAL SITUATION

	<u>Fabricated Metals</u> (\$ million, 1986*)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	22	0.93
Capital	2	0.54
TOTAL	24	0.88
Number of persons engaged in R&D in 1984	410	1.44
Number of firms engaged in R&D in 1984	88	9.58
General level of technology	Largely established	

10 ROLE OF GOVERNMENT

Federal financial assistance is available under a variety of programs, notably the Industrial and Regional Development Program (IRDP). The Industrial Research Program (IRAP) and the Program for Industry/Laboratory Projects (PILP), under the auspices of the National Research Council, support standard R&D activities. Export promotion assistance is available under the Program for Export Market Development (PEMB) and through the Export Development Corporation (EDC). Various provincial governments offer a variety of assistance programs.

11 INDUSTRIAL RELATIONS

	<u>Fabricated Metals</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	65,177	4.1
Lost during 1986 <sup>7</sup>	144,370	10.9
Days lost as percent of total time worked (1986)	0.4	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Fabricated Metals</u>	<u>Percent of</u> <u>All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	1st Q, 1983	4th Q, 1982
Recovery	3rd Q, 1986 <sup>8</sup>	2nd Q, 1984

<sup>8</sup> Very nearly regained previous peak

Annual Activity Change

1982  
1983  
1984  
1985  
1986

Percentage

-8.4	-11.1
-5.4	6.1
6.2	7.1
8.1	4.7
2.1	1.7

13 LATEST GENERAL PERFORMANCE

Percent change 1986-85

<u>Fabricated Metals</u>	<u>All Manufacturing</u>
--------------------------	--------------------------

- (a) Real production
- (b) Employment
- (c) Implied productivity ((a) less (b))
- (d) Average weekly wages and salaries
- (e) Implied unit labour costs ((c) less (d))

2.1	1.7
7.2	2.1
-5.1	-0.4
4.4	3.3
-9.5	-3.7

## MACHINERY

SIZE AND STRUCTURE

	<u>Machinery</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	7,700	3.1
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Other machinery and equipment manufacturers	79.4	
Agricultural implement industry	15.1	
Commercial refrigeration and air conditioning	5.5	
Estimated employment (number, 1986) <sup>1</sup>	752,068	4.15
Approximate concentration, top four enterprises percent of shipments (1982)	19.4	
Share of activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	96	98
Percent of employment	70	47
Percent of shipments	68	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Machinery</u>	<u>All Manufacturing</u>
Quebec	14.8	24.4
Ontario	64.8	53.3
British Columbia	6.4	8.2
Other provinces	13.1	14.1
Canada		100.0

\* Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Machinery (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	7,700	3.1
Domestic exports	4,239	4.3
Domestic shipments	3,461	2.3
Imports <sup>3</sup>	11,083	10.9
Apparent market <sup>3</sup>	14,544	5.7

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Machinery</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	55.1% of shipments	38.9
Import penetration (1986)	76.2% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	73.8
	EEC <sup>4</sup>	5.8
	Other OECD	2.9
	Non OECD	17.5
Major Import Sources (1985)		
	United States	73.9
	Japan	5.3
	EEC <sup>5</sup>	14.7
	Other OECD	4.3
	Non-OECD	1.8

<sup>4</sup> Includes Portugal and Spain<sup>5</sup> Excludes Portugal and Spain5 INVESTMENT AND PROFITABILITY

	<u>Machinery<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	156.7	142.0	155.4	1.7	1.2	1.2
Construction	31.0	34.9	38.3	1.2	1.4	1.6
Total	187.7	176.9	193.7	1.6	1.3	1.3

Profits as a percentage of sales  
of goods and services1984All Manufacturing 1984

2.6

4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.6 MAJOR FIRMS AND COUNTRY OF CONTROL

AES Data Inc. (Cdn); AMCA International Ltd. (Cdn); Canadian General Electric Co. Ltd. (US); Caterpillar of Canada Ltd. (US); Champion Road Machinery Ltd. (Cdn); Clark Equipment of Canada Ltd. (US); Dominion Bridge-Sulzer (Cdn/Swiss); Dresser Canada Inc. (Cdn); FMC of Canada Ltd. (US); Hawker Siddeley Canada Inc. (UK); Ingersoll-Rand Canada Inc. (US); Massey Ferguson Industries (Cdn); Mathews Conveyor (Rexnord) Ltd. (US); Westinghouse Canada Inc. (US).

7 PRODUCTS

Construction mining and machinery  
Oil and gas field equipment  
Dairy machinery and equipment  
Harvesting machines (all types)  
Hoisting machinery and parts  
Conveying, elevating and  
materials handling equipment.

Pumps (all types)  
Digital peripherals and auxiliary equipment  
Business machines and equipment  
Pulp and paper industries machinery  
Refrigeration equipment and parts



8 OWNERSHIP

	Percentage of Foreign Control, 1984	
	<u>Machinery</u>	<u>All Manufacturing</u>
Assets	44.0	44.3
Sales	48.8	50.4
Profits	56.5	63.3

7 Includes figures for office equipment which was transferred in the 1980 SIC classification to Electric and Electrical Products.

9 TECHNOLOGICAL SITUATION

	<u>Machinery</u> (\$ million, 1986)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	60	2.54
Capital	4	1.08
TOTAL	64	2.34
Number of persons engaged in R&D in 1984	1,190	4.17
Number of firms engaged in R&D 1984	128	13.93
General level of technology	Largely established	

10 ROLE OF GOVERNMENT

The industry enjoys protection against import competition through the Machinery Program (MACH); full duty is applied on imported equipment similar to that which is manufactured in Canada. Duty remission, however, is available on imported machinery not available from Canadian companies. Some construction machinery is imported duty-free into Canada under "end use" tariff items designed to lower costs in the resource processing industries (notably mining). Industrial assistance to new and existing business is available under the Industrial and Regional Development Program (IRDP). The National Research Council encourages R&D activity through such programs as the Industrial Research Assistance Program (IRAP) and the Program for Industry/Laboratory Projects (PILP). Export assistance is available under the Program for Export Market Development (PEMD) and through the Export Development Corporation (EDC). Various provincial governments offer a variety of assistance programs.

11 INDUSTRIAL RELATIONS

	<u>Machinery</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	72440	4.6
Lost during 1986 <sup>8</sup>	72930	5.5
Days lost as percent of total time worked (1986)	0.4	0.3

8 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Machinery</u>	<u>Percent of All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	1st Q, 1983	4th Q, 1982
Recovery	remained below peak	2nd Q, 1985

Annual Activity Change

	<u>Percentage</u>	
1982	-22.2	-11.1
1983	-12.8	6.1
1984	14.6	7.1
1985	7.6	4.7
1986	0.0	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Machinery</u>	<u>All Manufacturing</u>
(a) Real production	-0.03	1.7
(b) Employment	0.44	2.1
(c) Implied productivity ((a) less (b))	-0.5	-0.4
(d) Average weekly wages and salaries	2.2	3.3
(e) Implied unit labour costs ((c) less (d))	-2.7	-3.7

## TRANSPORTATION EQUIPMENT

1 SIZE AND STRUCTURE

	<u>Transportation Equip</u>	<u>Percent of All Manufacturing</u>
Shipments (\$ million, 1986) <sup>1</sup>	43,879	17.4
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Motor vehicle industry	54.6	
Motor vehicles parts and accessories	30.2	
Aircraft and parts industry	6.2	
Shipbuilding and repair industry	2.8	
Truck, bus and trailer body industry	2.6	
Boat building and repair industry	0.6	
Other transportation equipment	0.5	
Estimated employment (number, 1986) <sup>1</sup>	214,269	11.8
Approximate concentration, top four enterprises percent of shipments (1982)	77.9*	
Share of activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	88	98
Percent of employment	18	47
Percent of shipments	9	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2. GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Transportation Equip</u>	<u>All Manufacturing</u>
Quebec	12.3	24.4
Ontario	83.2	53.3
British Columbia	1.8	8.2
Other provinces	0.6	14.1
Canada	100.0	

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Transportation Equip</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	43,879	17.4
Domestic exports	38,948	39.8
Domestics shipments	4,931	3.2
Imports <sup>3</sup>	38,009	37.4
Apparent market <sup>3</sup>	42,940	16.8

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Transportation Equip</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	88.8% of shipments	38.9
Import penetration (1986) (non-competing imports excluded)	88.5% of apparent market	39.8
Major export clients, 1986 (percent)	United States	94.8
	EEC <sup>4</sup>	1.2
	Other OECD	0.6
	Non OECD	3.4
Major import sources, 1985 (percent)	United States	86.4
	Japan	6.5
	EEC <sup>5</sup>	2.9
	Other OECD	0.7
	Non-OECD	3.5

<sup>4</sup> Includes Portugal and Spain<sup>5</sup> Excludes Portugal and Spain5 INVESTMENT AND PROFITABILITY

	<u>Transportation Equip<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	<u>(\$ million)</u>					
<u>New capital expenditures</u>						
Machinery and equipment	854.6	2,215.4	2,218.8	9.5	19.3	17.5
Construction	445.4	385.8	295.0	17.4	15.9	12.2
TOTAL	1,300.0	2,601.2	2,513.8	11.3	18.7	16.6
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as a percentage of sales of goods and services	4.4		4.0			

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.6 MAJOR FIRMS AND COUNTRY OF CONTROL

American Motors Canada Inc. (US); Aviation Electric Ltd. (US); Bendix Heavy Vehicle Systems (US); Boeing of Canada Ltd. (US); Bombardier Inc. (Cdn); Borg-Warner Canada Ltd. (US); Bristol Aerospace Ltd. (UK); British Columbia Railway (Cdn); BUDD Canada Inc. (West Germany); Canadian Airlines International Ltd. (Cdn); Canadair Ltd. (Cdn); Canadian National Railway (Cdn); Chrysler Canada Inc. (US); de Havilland Aircraft of Canada Ltd. (US); Fednav Ltd. (Cdn); Ford Motor Company of Canada Ltd. (US); Gabriel of Canada Ltd. (Swiss); General Motors of Canada Ltd. (US); Hayes-Dana Inc. (US); Honda Canada Inc. (Japan); Laidlaw Transportation (Cdn); Magna International Inc. (Cdn); Mercedes-Benz Canada Inc. (West Germany); Pratt & Whitney Aircraft of Canada Ltd. (US); Procor Ltd. (US); Rockwell International of Canada Ltd. (US); Rolls-Royce Canada Ltd. (UK); Sheller Globe of Canada Ltd. (US); Spar Aerospace Ltd. (Cdn); TRW Canada Ltd. (US); Tridon Ltd. (Cdn); Trimac Ltd. (Cdn); Triple-E Canada Ltd. (US); Via Rail Canada (Cdn); Volvo Canada Ltd. (Swedish); Wardair International Ltd. (Cdn).

7 PRODUCTS

Aircraft and aircraft parts engines  
 Railway cars and locomotives  
 Automobile body stampings  
 Steering suspensions and front axles  
 Vehicle bodies  
 Mobile homes, trailers (all types)

Motor vehicle parts and accessories,  
 Naval vessels (all types)  
 Wheel and brake parts  
 Electrical equipment and apparatus  
 Radiators and cores

8 OWNERSHIP

Percentage of Foreign Control, 1984  
Transportation Equip / All Manufacturing  
 (\$ million)

Assets	73.8	44.3
Sales	88.4	50.4
Profits	100.4	63.3

7 Does not include figures for "textiles related to transportation equipment" as per 1980 SIC classification.

9 TECHNOLOGICAL SITUATION

	<u>Transportation Equip</u> (\$ million, 1986)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	439	18.55
Capital	40	10.78
TOTAL	479	17.50
Number of persons engaged in R&D in 1984	4,875	17.09
Number of firms engaged in R&D in 1984	49	5.33
General level of technology	Largely established or imported	

10 ROLE OF GOVERNMENT

The 1965 US-Canada Auto Pact allows qualified Canadian auto manufacturers to import original auto parts and vehicles duty-free from the US and other countries. Financial help for establishing new auto plants in less developed regions of the country is available mainly under DRIE's Industrial and Regional Development Program (IRDP). Grants for parts producers come under the Program for Export Market Development (PEMD). Other major sources of financial assistance to the industry include the Defence Industry Productivity Program (DIPP), the Native Economic Development Program (NEDP) and the Special Agricultural and Rural Development Act (SARDA), all of which fall under the jurisdiction of the Department of Regional Industrial Expansion (DRIE). Certain types of defence procurement are under the provision of the Canada-US Defence Sharing Arrangement. The railway equipment industry has received federal government support for product innovation, Canadian sources for components, and overseas market development, as well as on-going tariff support. Various provincial governments offer a variety of assistance programs and the incentives to attract new auto sector investment. Export assistance is available under the Program for Export Market Development (PEMD) and through the Export Development Corporation (EDC).

11 INDUSTRIAL RELATIONS

	<u>Transportation Equip</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	380,873	24.1
Lost during 1986 <sup>8</sup>	132,520	10.0
Days lost as percent of total time worked (1986)	0.3	0.3

8 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.



12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Transportation Equip</u>	<u>Percent of All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery	3rd Q, 1983	2nd Q, 1985

<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-9.3	-11.1
1983	16.1	6.1
1984	19.3	7.1
1985	8.0	4.7
1986	-0.5	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986/85</u>	
	<u>Transportation Equip</u>	<u>All Manufacturing</u>
(a) Real production	-0.5	1.7
(b) Employment	3.1	2.1
(c) Implied productivity ((a) less (b))	-3.6	-0.4
(d) Average weekly wages and salaries	3.5	3.3
(e) Implied unit labour costs ((c) less (d))	-7.1	-3.7

## MOTOR VEHICLES AND PARTS

1 SIZE AND STRUCTURE

	<u>Motor Vehicles and Parts</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	38,115	15.1
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Motor vehicle industry	62.4	
Motor vehicle parts and accessories	34.5	
Truck, bus and trailer body manufacturers	3.1	
Estimated employment (numbers, 1986) <sup>1</sup>	152,600	8.4
Approximate concentration, top four enterprises percent of shipments (1982)		80.1
Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	85	98
Percent of employment	17	47
Percent of shipments	8	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Motor Vehicles and Parts</u>	<u>All Manufacturing</u>
Quebec	-	24.4
Ontario	88	53.3
British Columbia	-	8.2
Other provinces	-	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Motor Vehicles and Parts</u> <u>(\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	38,115	15.1
Domestic exports	34,767	35.5
Domestic Shipments	3,348	2.2
Imports <sup>3</sup>	33,973	33.4
Apparent market <sup>3</sup>	37,321	14.6

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Motor Vehicles and Parts</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	91.2 of shipments	38.9
Import penetration (1986)	91.3 of apparent market	39.8
Major export clients, 1986 (percent)	United States 97.9 EEC <sup>4</sup> 0.2 Other OECD 0.4 Non-OECD 1.5	
Major import sources, 1985 (percent)	United States 86.7 Japan 6.5 EEC <sup>5</sup> 2.5 Other OECD 0.6 Non-OECD 3.7	

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Motor Vehicles and Parts</u> <sup>6</sup>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
New capital expenditures						
Machinery and equipment	644.4	2009.0	1938.7	7.2	17.5	15.3
Construction	376.7	324.7	232.2	14.7	13.4	9.6
TOTAL	1021.1	2333.7	2170.9	8.9	16.8	14.4
Profits as a percentage of sales of goods and services	<u>1984</u>	<u>All Manufacturing 1984</u>				
	4.8	4.0				

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987

6 MAJOR FIRMS AND COUNTRY OF CONTROL

American Motors Canada Inc. (US); Borg-Warner Canada Ltd. (US); Budd Canada (US); Chrysler Canada Inc. (US); Ford Motor Company of Canada Ltd. (US); Gabriel of Canada Ltd. (Swiss); Hayes-Dana Inc. (US); Honda Canada Inc. (Japan); Magna International Inc. (Cdn); Rockwell International of Canada Ltd. (US); Sheller-Globe of Canada Ltd. (US); Triple-E Canada Ltd. (Cdn); Volvo Canada Ltd. (Sweden).

7 PRODUCTS

Passenger cars	Wheel and brake parts
Trucks and motor homes	Engine parts
Gasoline engines	Automotive body stampings
Steering suspensions and front axles	Truck, bus and trailer bodies

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Motor Vehicles and Parts</u> <sup>7</sup>	<u>All Manufacturing</u>
	(\$ million)	
Assets	86.7	44.3
Sales	93.8	50.4
Profits	95.5	63.3

<sup>7</sup> Does not include figures for "textiles related to transportation equipment" as per 1980 SIC classification.

9 TECHNOLOGICAL SITUATION

	<u>Motor Vehicles and Parts</u> (\$ million, 1986)	<u>Percent of</u> <u>All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	81	3.42
Capital	11	2.96
TOTAL	92	3.36
Number of persons engaged in R&D in 1984 <sup>8</sup>	1340	4.7
Number of firms engaged in R&D in 1984	24	2.61
General level of technology	Medium with major R&D occurring abroad	

<sup>8</sup> Includes marine and rail producers

10 ROLE OF GOVERNMENT

The industry is rationalized on a North American basis with specified duty-free imports of original auto parts and vehicles from the US and other countries under the provision of the Canada-US Auto Pact of 1965. Financial assistance is available for automotive plant locations in less developed regions of the country under the Industrial and Regional Development Program (IRDP), and for parts producers under the Program for Export Market Development (PEMD). The main Canadian trade policy affecting this industry is the series of one-year agreements and understandings with the Japanese government which have restrained exports of Japanese automobiles to Canada since 1981. Some provincial governments provide assistance to support modernization projects in the parts sector.

11 INDUSTRIAL RELATIONS

	<u>Motor Vehicles and Parts</u>	<u>Percent of</u> <u>All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	255,723	14.3
Lost during 1986 <sup>9</sup>	57,560	14.3
Days lost as percent of total time worked (1986)	0.2	0.3

<sup>9</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)

<u>Comparative Cyclical Pattern</u>	<u>Motor Vehicles and Parts</u>	<u>All Manufacturing</u>
Peak	3rd Q, 1982	2nd Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery	1st Q, 1983	2nd Q, 1983
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-2.3	-11.1
1983	36.0	6.1
1984	26.8	7.1
1985	6.7	4.7
1986	-2.6	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent Change 1986-85</u>	
	<u>Motor Vehicles and Parts</u>	<u>All Manufacturing</u>
(a) Real production	-2.6	1.7
(b) Employment	2.8	2.1
(c) Implied productivity ((a) less (b))	-5.4	-0.4
(d) Average weekly wages and salaries	3.4	3.3
(e) Implied unit labour costs ((c) less (d))	-8.8	-3.7



## ELECTRICAL EQUIPMENT AND ELECTRONICS

1 SIZE AND STRUCTURE

	<u>Electrical and Electronics</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	13,357	5.3
<u>Major sub-sectors and percent of all shipments (1984)</u>		
Communications and other electronic equipment	32.9	
Electrical industrial equipment	14.6	
Office, store and business machines	14.3	
Communication and energy, wire and cable	10.6	
Major appliances	7.9	
Other electrical products	6.7	
Electric lighting	5.4	
Small electrical appliances	3.9	
Record players, radios and televisions	3.8	
Estimated employment (numbers, 1986) <sup>1</sup>	144,785	8.0
Approximate concentration, top four enterprises percent of shipments (1982)	59.7*	
Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	89	98
Percent of employment	29	47
Percent of shipments	32	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments (1986)<sup>2</sup></u>	
	<u>Electrical and Electronics</u>	<u>All Manufacturing</u>
Quebec	24.4	24.4
Ontario	68.0	53.3
British Columbia	1.8	8.2
Other provinces		14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Electrical and Electronics</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
Shipments	13,357	5.3
Domestic exports	5,636	5.8
Domestic shipments	7,721	5.0
Imports <sup>3</sup>	12,800	12.6
Apparent market <sup>3</sup>	20,521	8.0

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Electrical and Electronics</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	42.2% of shipments	38.9
Import penetration (1986)	62.4% of apparent market	39.8
Major export clients, 1986 (percent)	United States 77.8 EEC <sup>4</sup> 7.7 Other OECD 5.7 Non-OECD 8.8	
Major import sources, 1985 (percent)	United States 72.2 Japan 13.0 EEC <sup>5</sup> 5.2 Other OECD 1.2 Non-OECD 8.4	

4 Includes Portugal and Spain

5 Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	<u>Electrical and Electronics<sup>6</sup></u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
<u>New capital expenditures</u>						
Machinery and equipment	477.2	557.5	783.7	5.3	4.8	6.2
Construction	148.4	129.3	150.4	5.8	5.3	6.2
TOTAL	625.6	686.8	934.1	5.4	4.9	6.2
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as a percentage of sales of goods and services	4.5	4.0				

6 Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Burroughs Memorex Inc. (US); CAE Electronics Ltd. (Cdn); Camco Inc. (Cdn); Canada Wire & Cable Ltd. (Cdn); Canadian Marconi Co. (US); Canadian General Electric Co. Ltd. (US); Control Data Canada Ltd. (US); Crouse-Hinds Canada Ltd. (US); Digital Equipment of Canada Ltd. (US); Electrohome Ltd. (Cdn); Federal Pioneer Ltd. (US); Fleck Manufacturing Inc. (Cdn); Ford Electronic Manufacturing (US); GTE Sylvania Canada Ltd. (US); Hewlett-Packard Canada Ltd. (US); Honeywell Ltd. (US); IBM Canada Ltd. (US); ITT Industries of Canada Ltd. (US); Klockner-Moeller Ltd. (West Germany); Leigh Instruments Ltd. (Cdn); Matsushita Electric of Canada (Japan); Microtel Ltd. (US); Mitel Ltd. (UK); NCR Canada Ltd. (US); Northern Telecom Canada Ltd. (Cdn); Philips Cables Ltd. (UK); Phillips Electronics Ltd. (Dutch); Pirelli Cables Inc. (Swiss/Italian); Pratt & Whitney Canada Inc. (US); RCA Inc. (U.S); Spar Aerospace Ltd. (Cdn); Square D Canada Electrical Equipment Inc. (US); Varta Batteries Ltd. (West Germany); Westinghouse Canada Inc. (US).

PRODUCTS

<u>Communications and electronic equipment</u>	Telephone, multiplexing and switching equipment Radio communications equipment Components, printed circuits Navigation equipment Computer, memory modules, disk drives, printers, business machines	<u>Appliances</u>	Stoves and ranges, Washers driers, freezers Small appliances
<u>Industrial Equipment</u>	Starters and controllers Transformers Generators Switchgear assemblies Batteries	<u>Lighting Fixtures</u>	Industrial lighting equipment Bulbs, tubes, etc.
<u>Electric Wire Cable</u>	Telephone cable Power cable Building wires Wiring devices	<u>Radio and TV</u>	Television and <u>and</u> radio equipment

8 OWNERSHIP

	Percentage of Foreign Control, 1984 <u>Electrical and Electronics</u>	<u>All Manufacturing</u>
Assets	47.9	44.3
Sales	59.2	50.4
Profits	63.0	63.3

7 These figures exclude Office Equipment, which are reported with Machinery under the 1960 SIC classification.

9 TECHNOLOGICAL SITUATION

	<u>Electrical and Electronics</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	1,065	45.01
Capital	217	58.49
TOTAL	1,282	46.84
Number of persons engaged in R&D in 1984	44,130	12,590
Number of firms engaged in R&D in 1984	21,540	198
General level of technology	High	

10 ROLE OF GOVERNMENT

A range of government incentive programs for export promotion (Program for Export Market Development - PEMD) and industrial development (Industrial and Regional Development Program - IRDP, Defence Industry Productivity Program - DIPP) are available to the electrical products industry. Ownership and control of electric utilities fall under provincial jurisdiction, and provincial procurement of electrical industrial equipment largely requires local manufacture. In consumer electronics, a duty remission scheme for colour televisions exists to encourage the rationalization and restructuring of existing suppliers of television components. In the data communications sector (computers, photocopiers, printers, etc.) the Program for Advanced Industrial Technology (PAIT) has been available in the past. Research and development for new industrial products is currently funded by such programs as the Industrial Research Assistance Program (IRAP) and the program for Industry/Laboratory Projects (PILP) under the auspices of the National Research Council. The provinces also have a variety of assistance programs.

11 INDUSTRIAL RELATIONS

	<u>Electrical and Electronics</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	81,537	5.2
Lost during 1986 <sup>8</sup>	129,270	9.7
Days lost as percent of total time worked (1986)	0.4	0.3

<sup>8</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)

<u>Comparative Cyclical Pattern</u>	<u>Electrical and Electronics</u>	<u>All Manufacturing</u>
Peak	3rd Q, 1981	4th Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery	1st Q, 1985	2nd Q, 1985
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-8.9	-11.1
1983	-1.4	6.1
1984	8.6	7.1
1985	10.3	4.7
1986	1.4	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Electrical and Electronics</u>	<u>All Manufacturing</u>
(a) Real production	1.4	1.7
(b) Employment	3.3	2.1
(c) Implied productivity ((a) less (b))	-1.9	-0.4
(d) Average weekly wages and salaries	3.5	3.3
(e) Implied unit labour costs ((c) less (d))	-5.4	-5.7

## COMMUNICATIONS EQUIPMENT

1 SIZE AND STRUCTURE

	<u>Communications Equipment</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	4,448	1.8
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Telecommunications equipment	47.5	
Other communication and electronic equipment	36.4	
Electronic parts and components	16.0	
Estimated employment (numbers, 1986) <sup>1</sup>	53,861	3.0
Approximate concentration, top four enterprises percent of shipments (1982)	57.8	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	90	98
Percent of employment	22	47
Percent of shipments	20	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments (est 1982-84 ave)<sup>2</sup></u>	<u>Percent of All Manufacturing</u>
	<u>Communications Equipment</u>	
Quebec	-	24.4
Ontario	63.5	53.3
British Columbia	-	8.2
Other provinces	-	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Communications Equipment</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
Shipments	4,448	1.8
Domestic exports	2,493	2.6
Domestic shipments	1,955	1.3
Imports <sup>3</sup>	3,232	3.2
Apparent market <sup>3</sup>	5,187	2.0

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.



4 EXTERNAL TRADE

	<u>Communications Equipment</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	56.1% of shipments	38.9
Import penetration (1986)	62.3% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	72.7
	EEC <sup>4</sup>	7.2
	Other OECD	8.8
	Non-OECD	11.3
Major import sources, 1985 (percent)		
	United States	78.0
	Japan	10.4
	EEC <sup>5</sup>	3.6
	Other OECD	1.0
	Non-OECD	7.0

<sup>4</sup> Includes Portugal and Spain<sup>5</sup> Excludes Portugal and Spain5 INVESTMENT AND PROFITABILITY

	<u>Communications<sup>6</sup> Equipment</u>			<u>Percent of All Manufacturing</u>		
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
	(\$ million)					
New capital expenditures						
Machinery and equipment	238.3	261.7	352.7	2.7	2.3	2.8
Construction	65.0	50.9	51.0	2.5	2.1	2.1
TOTAL	303.3	312.6	403.7	2.6	2.2	2.7
	<u>1984</u>	<u>All Manufacturing 1984</u>				
Profits as a percentage of sales of goods and services	7.0			4.0		

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.6 MAJOR FIRMS AND OWNERSHIP

CAE Electronics Ltd. (Cdn); Canadian Marconi (US); Computing Devices Company (US); Gandalf Technologies Inc. (Cdn); ITT Industries of Canada (US); Leigh Instruments (Cdn); Microtel (Cdn); Mitel Corp (UK); Northern Telecom Canada Ltd. (Cdn); Spar Aerospace Ltd. (Cdn).

7 PRODUCTSTelecommunications

Telephone and telegraph carrier equipment

Central office switching systems and equipment

Key telephone systems

Telephone sets

Private branch exchange (PBX units or "switches")

Transmission systems (cable, microwave, optical fibre)

Mobile radio, telephone sets and paging systems

Terminal attachments

Multiplex equipment

Electronic components

Semiconductors and integrated circuits  
Resistors, electronic capacitors and transformers  
Printed circuits with and without components

Navigational equipment

Radar and sonar for airborne and marine navigation  
Security and alarm systems  
Electronic sound equipment

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Communications Equipment</u>	<u>Percent of All Manufacturing</u>
Assets	26.7	44.3
Sales	37.3	50.4
Profits	32.5	63.3

9 TECHNOLOGICAL SITUATION

	<u>Communications Equipment (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	816	34.49
Capital	145	39.08
TOTAL	961	35.11
Number of persons engaged in R&D in 1984	9,190	32.21
Number of firms engaged in R&D in 1984	101	10.99
General level of technology	High	

10 ROLE OF GOVERNMENT

Industrial assistance in this sector largely flows through research and development and export mechanisms such as the Industrial and Regional Development Program (IRDP), the Program for Export Market Development (PEMD), and the Export Development Corporation (EDC). The Industrial Research Assistance Program (IRAP) and the Program for Industry/Laboratory Projects (PILP), administered by the National Research Council, provide financial support for research projects with high technical merit, good prospects for high return and proper business plans. Various government departments indirectly regulate the activities of this sector; carriers are regulated through the Department of Communications and broadcasters through the CRTC. Various defence-related equipment must meet standards in Canada and other countries such as the US.

11 INDUSTRIAL RELATIONS

	<u>Communications Equipment</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average 1983-85	10,553	0.7
Lost during 1986 <sup>7</sup>	4,280	0.3
Percent of total time worked (1986)	0.03	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

Peak  
Trough  
Recovery

Communications  
Equipment

Rising trend  
after  
1980

All Manufacturing

2nd Q, 1981  
4th Q, 1982  
2nd Q, 1985

Annual Activity ChangePercentage

(\$ million)

1982	1.9	-11.1
1983	-2.5	6.1
1984	11.4	7.1
1985	10.3	4.7
1986	0.7	1.7

13 LATEST GENERAL PERFORMANCEPercent change 1986-85CommunicationsEquipmentAll Manufacturing

(a) Real production	0.7	1.7
(b) Employment	2.1	2.1
(c) Implied productivity ((a) less (b))	-1.4	-0.4
(d) Average weekly wages and salaries	4.1	3.3
(e) Implied unit labour costs ((c) less (d))	-5.5	-3.7

## NON-METALLIC MINERAL PRODUCTS

1 SIZE AND STRUCTURE

	<u>Non-metallic Mineral Products</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	6,439	2.6
<u>Major sub-sectors as percent of sector shipments (1986)</u>		
Ready-mix concrete industry	20.2	
Glass, glass products industry	23.6	
Other non-metallic products industry	19.3	
Hydraulic cement industry	13.3	
Concrete products industry	12.5	
Abrasives industry	4.4	
Clay products industry	3.8	
Lime industry	2.8	
Estimated employment (numbers, 1986) <sup>1</sup>	51,922	2.9
Approximate concentration, top four enterprises percent of shipments (1982)	63.0*	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	98	98
Percent of employment	77	47
Percent of shipments	70	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Non-metallic Mineral Products</u>	<u>All Manufacturing</u>
Quebec	23.1	24.4
Ontario	52.9	53.3
British Columbia	7.2	8.2
Other provinces	14.5	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Non-metallic Mineral Products (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	6,439	2.6
Domestic exports	822	0.9
Domestic Shipments	5,617	3.7
Imports <sup>3</sup>	1,343	1.3
Apparent market <sup>3</sup>	6,960	2.7

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	Non-metallic Mineral Products	Percent of All Manufacturing
Export orientation (1986)	12.8% of shipments	38.9
Import penetration (1986)	19.3% of apparent market	39.8
Major export clients, 1986 (percent)	United States	94.7
	EEC <sup>4</sup>	1.6
	Other OECD	1.3
	Non-OECD	2.4
Major import sources, 1985 (percent)	United States	63.0
	Japan	7.0
	EEC <sup>5</sup>	20.9
	Other OECD	3.5
	Non-OECD	5.6

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	Non-metallic Mineral Products <sup>6</sup>			Percent of All Manufacturing		
	1985	1986	1987	1985	1986	1987
	(\$ million)					
New capital expenditures						
Machinery and equipment	193.2	269.7	307.9	2.1	2.3	2.4
Construction	39.2	31.9	46.7	1.5	1.3	1.9
TOTAL	232.4	301.6	354.6	2.0	2.2	2.3
	<u>1984</u>			<u>All Manufacturing 1984</u>		
Profits as a percentage of sales of goods and services	6.7			4.0		

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Canada Cement Lafarge Ltd.(French); Canadian Gypsum Company Ltd. (Cdn); Canfarge Ltd.(French); Consumers Glass Company Ltd.(Cdn); Domglas Inc.(Cdn.); Domtar Inc.(Cdn.); Ford Glass Ltd. (US); Genstar Cement Ltd.(Cdn.); Havelock Lime Works Ltd. (Cdn); Lake Ontario Cement Ltd. (Cdn); Ocean Construction Supplies Ltd.(Belgian); PPG Canada Inc. (US); Revelstoke Companies Ltd.(Cdn.) St. Lawrence Cement Inc.(Swiss); St. Mary's Cement Ltd. (Cdn.); Standard Industries Ltd. (Cdn); Sumas Clay Products Ltd. (Cdn).

7 PRODUCTS

Ready-mix concrete	Concrete products (all types)
Cement, bulk and bags (all types)	Building bricks (all types)
Clay products	Glass (pressed, blown and drawn)
Glass window units and windows for windshields	Mirrors and plate glass
Asbestos building material	Gypsum wallboard and plaster compounds
Mineral wool and fibreglass building insulation	Lime and limestone



8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Non-metallic Mineral Products (\$ million)</u>	<u>Percent of All Manufacturing</u>
Assets	69.6	44.3
Sales	53.2	50.4
Profits	66.3	63.3

9 TECHNOLOGICAL SITUATION

	<u>Non-metallic Mineral Products (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	14	0.59
Capital	2	0.54
TOTAL	16	0.58
Number of persons engaged in R&D in 1984	190	0.67
Number of firms engaged in R&D in 1984	14	1.52
General level of technology	Low	

10 ROLE OF GOVERNMENT

Both the cement and concrete products industries have received a small amount of assistance through federal and provincial programs, notably under the Industrial and Regional Development Program initiated in mid-1983. Foreign aid through the Canadian International Development Agency (CIDA) has helped to develop new markets for Canadian manufactured non-metallic mineral products. Export assistance is available under the Program for Export Market Development and through the Export Development Corporation (EDC).

11 INDUSTRIAL RELATIONS

	<u>Non-metallic Mineral Products</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	72,507	4.6
Lost during 1986 <sup>7</sup>	84,640	6.4
Days lost as percent of total time worked (1986)	0.7	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Non-metallic Mineral Products</u>	<u>All Manufacturing</u>
Peak	2nd Q, 1981	2nd Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery (remained below peak)	4th Q, 1985	2nd Q, 1985

Annual Percentage Change

	<u>Percentage</u>	
1982	-16.2	-11.1
1983	3.6	6.1
1984	8.4	7.1
1985	7.6	4.7
1986	6.9	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent Change 1986-1985</u>	
	<u>Non-metallic Mineral Products (\$ million)</u>	<u>All Manufacturing</u>
(a) Real production	6.9	1.7
(b) Employment	5.6	2.1
(c) Implied productivity ((a) less (b))	1.3	-0.4
(d) Average weekly wages and salaries	4.8	3.3
(e) Implied unit labour costs ((c) less (d))	-3.5	3.7

## PETROLEUM AND COAL PRODUCTS

1 SIZE AND STRUCTURE

	<u>Petroleum and Coal Products</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	19,488	7.7
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Petroleum refining	99.4	
Other petroleum and coal products	0.6	
Estimated employment (numbers, 1986) <sup>1</sup>	17,296	1.0
Approximate concentration, top four enterprises percent of shipments (1982)	61.5	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	86	98
Percent of employment	18	47
Percent of shipments	23	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1984)<sup>2</sup></u>	<u>Percent of All Manufacturing</u>
	<u>Petroleum and Coal Products</u>	
Quebec	17.2	24.4
Ontario	35.9	53.3
British Columbia	10.6	8.2
Other provinces	22.0	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Petroleum and Coal Products (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	19,488	7.7
Domestic exports	1,423	1.5
Domestic Shipments	18,065	11.7
Imports <sup>3</sup>	1,426	1.4
Apparent market <sup>3</sup>	19,491	7.6

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	<u>Petroleum and Coal Products</u>	<u>Percent of All Manufacturing</u>
Export orientation (1986)	7.3% of shipments	38.9
Import penetration (1986)	7.3% of apparent market	39.8

Major export clients, 1986 (percent)	United States	92.6
	EEC <sup>4</sup>	2.5
	Other OECD	1.8
	Non-OECD	3.0
Major import sources, 1985 (percent)	United States	48.3
	EEC <sup>5</sup>	17.1
	Other OECD	6.5
	Non-OECD	28.1

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

## 5 INVESTMENT AND PROFITABILITY

	Petroleum and Coal Products <sup>6</sup>			Percent of All Manufacturing		
	1985	1986	1987	1985	1986	1987
	(\$ million)					
New capital expenditures						
Machinery and equipment	87.4	103.1	141.3	1.0	0.9	1.1
Construction	248.3	309.5	423.9	9.7	12.8	17.8
TOTAL	335.7	412.6	565.2	2.9	3.0	3.7

	1984	All Manufacturing 1984
Profits as a percentage of sales of goods and services	5.0	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

## 6 MAJOR FIRMS AND COUNTRY OF CONTROL

BP Oil Ltd. (UK); Canadian Ultramar Ltd. (Cdn); Gulf Canada Ltd. (US); Husky Oil Ltd. (Cdn); Imperial Oil Ltd. (US); Petro Canada Ltd. (Cdn); Petrosar Ltd. (Cdn); Shell Canada Ltd. (Dutch); Texaco Canada Inc. (US); Turbo Resources Ltd. (Cdn).

## 7 PRODUCTS

Gasoline (motor, aviation)	Turbo and diesel fuel
Heavy and light fuel oils	Liquified petroleum gases
Refinery still gas	Lubricating oils
Kerosene stove oil	Petroleum coke
Asphalt and tar paving mixtures	Sulphur (crude and refined)
Paraffin wax (crude and refined)	Petrochemical feedstocks

## 8 OWNERSHIP

	Percentage of Foreign Control, 1984	
	Petroleum and Coal Products	Percent of All Manufacturing
Assets	59.4	44.3
Sales	71.0	50.4
Profits	64.9	63.3

9 TECHNOLOGICAL SITUATION

	Petroleum and Coal Products (\$ million, 1986)	Percent of All Manufacturing
<u>Intramural R&amp;D outlays</u>		
Current	176	7.44
Capital	29	7.82
TOTAL	205	7.49
Number of persons engaged in R&D in 1984	1,355	4.75
Number of firms engaged in R&D in 1984	10	1.09
General level of technology	Varied through to established	

10 ROLE OF GOVERNMENT

The industry has received very little federal support, which is available under the Industrial and Regional Development Program (IRDP) and the Native Economic Development Program (NEDP). Some provincial assistance programs are also available.

11 INDUSTRIAL RELATIONS

	Petroleum and Coal Products	Percent of All Manufacturing
<u>Days lost</u>		
Average, 1983-85	587	0.04
Lost during 1986 <sup>7</sup>	250	0.02
Days lost as percent of total time worked (1986)	0.006	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)

<u>Comparative Cyclical Pattern</u>	Petroleum and Coal Products	All Manufacturing
Peak	2nd Q, 1981	2nd Q, 1981
Trough	2nd Q, 1983	4th Q, 1982
Recovery (remained below peak)	2nd Q, 1985	
<u>Annual Activity Change</u>	<u>Percentage</u>	
1982	-14.8	-11.1
1983	-5.1	6.1
1984	0.2	7.1
1985	-2.3	4.7
1986	-0.4	1.7

13 LATEST GENERAL PERFORMANCE

	Petroleum and Coal Products	All Manufacturing
	Percent Change 1986-85	
(a) Real production	-0.5	1.7
(b) Employment	0.8	2.1
(c) Implied productivity ((a) less (b))	-1.3	-0.4
(d) Average weekly wages and salaries	1.6	3.3
(e) Implied unit labour costs ((c) less (d))	-2.9	-3.7



## CHEMICALS AND CHEMICAL PRODUCTS

1 SIZE AND STRUCTURE

	<u>Chemicals and Chemical Products</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	18,623	7.4
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Industrial chemicals industries n.e.c.	38.4	
Other chemical industries	12.1	
Pharmaceutical and medicine industry	10.7	
Plastic and synthetic resin producers	10.6	
Agricultural chemical industry	9.6	
Soap and cleaning products industry	7.5	
Paint and varnish industry	6.3	
Toilet preparation industry	4.7	
Estimated employment (numbers, 1986) <sup>1</sup>	92,279	5.1
Approximate concentration, top four enterprises percent of shipments (1982)	45.5*	
<u>Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)</u>		
Percent of establishments	92	98
Percent of employment	40	47
Percent of shipments	48	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Chemicals and Chemical Products</u>	<u>All Manufacturing</u>
Quebec	23.4	24.4
Ontario	58.7	53.3
British Columbia	3.2	8.2
Other provinces	12.6	14.1
Canada		100.0

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Chemicals and Chemical Products</u> (\$ million, 1986)	<u>Percent of All Manufacturing</u>
Shipments	18,623	7.4
Domestic exports	4,584	4.7
Domestic shipments	14,039	9.1
Imports <sup>3</sup>	6,041	5.9
Apparent market <sup>3</sup>	20,080	7.9

<sup>3</sup> Exclusive of re-exports brought into the country but not entering the Canadian consumption stream.

4 EXTERNAL TRADE

	Chemicals and Chemical Products	Percent of All Manufacturing
Export orientation (1986)	24.6% of shipments	38.9
Import penetration (1986)	30.1% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	65.6
	Japan	4.2
	EEC <sup>4</sup>	14.5
	Other OECD	2.1
	Non-OECD	13.6
Major import sources, 1985 (percent)		
	United States	72.9
	Japan	2.2
	EEC <sup>5</sup>	17.4
	Other OECD	3.4
	Non-OECD	4.1

<sup>4</sup> Includes Portugal and Spain<sup>5</sup> Excludes Portugal and Spain5 INVESTMENT AND PROFITABILITY

	Chemicals and Chemical Products <sup>6</sup>			Percent of All Manufacturing		
	1985	1986	1987	1985	1986	1987
	(\$ million)					
New capital expenditures						
Machinery and equipment	687.2	932.0	801.2	7.7	8.1	6.3
Construction	185.1	285.2	243.5	7.2	11.8	10.1
TOTAL	872.3	1,217.2	1,044.7	7.6	8.7	6.9

	1984	All Manufacturing 1984
Profits as a percentage of sales of goods and services	4.9	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.6 MAJOR FIRMS AND COUNTRY OF CONTROL

Allied Canada Inc. (US); Avon Canada Inc. (US); Bristol-Myers Canada Inc. (US); B.F. Goodrich Canada Ltd. (US); Borg-Warner Chemicals Ltd. (US); Canadian Liquid Air Ltd. (US); Canadian Occidental Petroleum Ltd. (Cdn/US); Ciba-Geigy Canada Ltd. (Swiss); CIL Inc. (UK); CCL Industries Inc. (US); Cominco Ltd. (Cdn); Dow Chemical Canada Inc. (US); Dubois Chemicals of Canada Ltd. (Cdn); Dupont Canada Inc. (US); ERCO Industries Ltd. (US); Gillette Canada Inc. (US); International Paints Canada Ltd. (UK); Johnson and Johnson Inc. (US); Liquid Carbonic Inc. (US); Monsanto Canada Inc. (US); Polysar Ltd. (Cdn); Procter and Gamble Inc. (US); Union Carbide Canada Ltd. (US); Warner-Lambert Canada Ltd. (US).

7 PRODUCTS

Polymers and other resins	Paints and paint-related products (all types)
Petroleum and coal products	Metallic salts and peroxy salts
Pharmaceutical and medicinal products	Adhesives
Explosive fuses and caps	Agricultural chemicals and fertilizers
Alcohols and derivatives	Nitrogen compounds and urea
Sodium hydroxide	Toiletries
Organic and inorganic chemicals	
Regenerated cellulose films and sheets	
Synthetic detergents, soaps and general cleaning preparations	
Ethyl glycol	

8 OWNERSHIP

	<u>Percentage of Foreign Control, 1984</u>	
	<u>Chemicals and Chemical Products</u>	<u>Percent of All Manufacturing</u>
	<u>(\$ million)</u>	
Assets	69.9	44.3
Sales	75.3	50.4
Profits	89.4	63.3

9 TECHNOLOGICAL SITUATION

	<u>Chemicals and Chemical Products</u>	<u>Percent of All Manufacturing</u>
	<u>(\$ million, 1986)</u>	
<u>Intramural R&amp;D outlays</u>		
Current	223	9.43
Capital	35	9.43
TOTAL	258	9.43
Number of persons engaged in R&D in 1984	2600	9.11
Number of firms engaged in R&D in 1984	134	14.58
General level of technology	Medium to high	

10 ROLE OF GOVERNMENT

Government regulation is specific to each industry. The Food and Drug Act, administered by Health and Welfare Canada, monitors safety, quality, advertising, packaging, distribution and labelling in the pharmaceutical and personal care area. The existing Patent Act has encouraged the establishment of a Canadian-controlled generic drug industry through compulsory licensing of generic equivalents of brand-name drugs. The economics of the fertilizer sector is very sensitive to energy policies; recent regulatory changes concerning the transport of hazardous fertilizer goods have resulted in costly differences between Canada and US regulations. Government assistance of the umbrella type is available under the Industrial and Research Development program (IRDP) and export assistance is administered through the Program for Export Market Development (PEMD) and the Export Development Corporation (EDC). Most provinces have a variety of programs to assist industrial development.

11 INDUSTRIAL RELATIONS

	<u>Chemicals and Chemical Products</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	45,020	2.9
Lost during 1986 <sup>7</sup>	22,150	1.7
Days lost as percent of total time worked (1986)	0.1	0.3

<sup>7</sup> Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES -1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Chemicals and Chemical Products</u>	<u>All Manufacturing</u>
Peak	1st Q, 1981	2nd Q, 1981
Trough	4th Q, 1982	4th Q, 1982
Recovery	4th Q, 1983	2nd Q, 1985

Annual Activity Change

1982  
1983  
1984  
1985  
1986

Percentage

-9.5	-11.1
8.6	6.1
7.1	7.1
3.9	4.7
-1.6	1.7

13 LATEST GENERAL PERFORMANCEPercent Change 1986-85

Chemicals and

Chemical Products

(\$ million)

All Manufacturing

- (a) Real production  
(b) Employment  
(c) Implied productivity ((a) less (b))  
(d) Average weekly wages and salaries  
(e) Implied unit labour costs ((c) less (d))

-1.6	1.7
0.6	2.1
-2.2	-0.4
3.9	3.3
-6.1	-3.7

OTHER MANUFACTURING1 SIZE AND STRUCTURE

	<u>Other Manufacturing</u>	<u>Percent of All Manufacturing</u>
Estimated shipments (\$ million, 1986) <sup>1</sup>	5,189	2.1
<u>Major sub-sectors as percent of sector shipments (1984)</u>		
Scientific and professional equipment industries	32.7	
Other manufacturing products industries, n.e.c.	27.4	
Sporting goods and toy manufacturers	18.5	
Jewellery and precious metal industries	13.5	
Sign and display industry	7.8	
Estimated employment (numbers, 1986) <sup>1</sup>	59,713	3.3
Approximate concentration, top four enterprises percent of shipments (1982)	46.1	
Share of manufacturing activity by medium and smaller production units (under 200 employees, 1984)		
Percent of establishments	85	98
Percent of employment	68	47
Percent of shipments	65	40

<sup>1</sup> Published survey data adjusted for more recent reference year.

\* estimate

2 GEOGRAPHICAL DISTRIBUTION OF INDUSTRY

	<u>Percentage Distribution of Shipments, (1986)<sup>2</sup></u>	
	<u>Other Manufacturing</u>	<u>Percent of All Manufacturing</u>
Quebec	-	24.4
Ontario	66.3	53.3
British Columbia	3.1	8.2
Other provinces	1.6	14.1
Canada	100.0	

<sup>2</sup> Percentages may not add up to 100 due to lack of data for confidential purposes.

3 APPARENT MARKET

	<u>Other Manufacturing (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
Shipments	5,189	2.1
Domestic exports	2,154	2.2
Domestic Shipments	3,035	2.0
Imports <sup>3</sup>	6,152	6.1
Apparent market <sup>3</sup>	9,187	3.6

<sup>3</sup> Exclusive of re-exports brought into the country, but not entering the Canadian consumption stream.



4 EXTERNAL TRADE

	Other Manufacturing	Percent of All Manufacturing
Export orientation (1986)	44.5% of shipments	38.9
Import penetration (1986)	67.0% of apparent market	39.8
Major export clients, 1986 (percent)		
	United States	73.4
	EEC <sup>4</sup>	11.2
	Other OECD	4.8
	Non-OECD	10.6
Major import sources, 1985 (percent)		
	United States	60.4
	Japan	10.4
	EEC <sup>5</sup>	13.8
	Other OECD	3.1
	Non-OECD	12.3

<sup>4</sup> Includes Portugal and Spain

<sup>5</sup> Excludes Portugal and Spain

5 INVESTMENT AND PROFITABILITY

	Other Manufacturing <sup>6</sup>			Percent of All Manufacturing		
	1985	1986	1987	1985	1986	1987
	(\$ million)					
New capital expenditures						
Machinery and equipment	150.0	170.1	216.0	1.7	1.5	1.7
Construction	45.4	72.4	52.6	1.8	3.0	2.2
TOTAL	195.4	242.5	268.6	1.7	1.7	1.8

	1984	All Manufacturing 1984
Profits as a percentage of sales of goods and services	4.0	4.0

<sup>6</sup> Actual expenditures 1985, preliminary actual 1986, intentions 1987.

6 MAJOR FIRMS AND COUNTRY OF CONTROL

Aoco Ltd. (US); Atomic Energy of Canada Ltd. (Cdn); Capital Records-EMI of Canada (US); CBS Records Canada Ltd. (US); Coleco Canada Ltd. (US); Cooper Canada Ltd. (Cdn); Fisher Controls Company of Canada Ltd. (US); Honeywell Ltd. (US); Imperial Optical Company Ltd. (Cdn); Irwin Toy Ltd. (Cdn); ITT Industries of Canada Ltd. (US); Kodak Canada Inc. (US); MCA Records Canada Ltd. (UK); YKK Canada Inc. (Japan).

7 PRODUCTS

Process control equipment; control panels; control valves and regulators; flow and liquid level instruments; temperature regulators, etc.; dental, optical, surgical and medical instruments; prescription eyeglasses, contact lenses and lenses; wrist watches (battery and non-battery); jewellery (precious and non-precious metal); gold and silver (including alloys); artworks (all types); records and tapes (all types); musical instruments; sporting goods (all types); brooms, brushes and mops (all types)

8 OWNERSHIP

	Percentage of Foreign Control, 1984	
	<u>Other/ Manufacturing (\$ million)</u>	<u>Percent of All Manufacturing</u>
Assets	37.1	44.3
Sales	37.0	50.4
Profits	43.5	63.3

7 Includes plastics fabricating (1980 SIC basis).

9 TECHNOLOGICAL SITUATION

	<u>Other Manufacturing (\$ million, 1986)</u>	<u>Percent of All Manufacturing</u>
<u>Intramural R&amp;D outlays</u>		
Current	46	1.9
Capital	6	1.6
TOTAL	52	1.9
Number of persons engaged in R&D in 1984	n/a	n/a
Number of firms engaged in R&D in 1984	45	4.90
General level of technology	High (scientific instrumentation) to Low (other apparel, etc.)	

10 ROLE OF GOVERNMENT

Programs such as the Industrial and Regional Development Program (IRDP), the Program for Export Market Development (PEMD) and the Promotional Project Program (PPP) are available to Canadian toy and games companies and the sporting goods industry to maintain an internationally competitive stance. The major regulations affecting these sectors include the Packaging and Labelling Act as it applies to bilingual packaging, and the Hazardous Product Act, which insures product safety. Provincial activities such as the organization of trade unions, participation in foreign trade and the development and dissemination of product directories, have complemented federal programs. In May 1986, the Department of Communications announced that financial assistance would be available for increasing production of master tapes and music videos. As with publishing, under the Investment Canada Act, special provisions apply to proposals from abroad where specified cultural activities are concerned. Various other provincial assistance programs are available to the industry as a whole.

11 INDUSTRIAL RELATIONS

	<u>Other Manufacturing</u>	<u>Percent of All Manufacturing</u>
<u>Days lost</u>		
Average, 1983-85	21953	1.4
Lost during 1986 <sup>8</sup>	14050	1.1
Days lost as percent of total time worked (1986)	0.09	0.3

8 Does not include data on work stoppages under Quebec and federal jurisdiction for November-December 1986.

12 GENERAL ACTIVITY CHANGES, 1980-86 (Real Output)Comparative Cyclical Pattern

	<u>Other Manufacturing</u>	<u>All Manufacturing</u>
Peak	3rd Q, 1981	2nd Q, 1981
Trough	1st Q, 1983	4th Q, 1982
Recovery	remained below peak	2nd Q, 1985

Annual Activity Change

	<u>Percentage</u>	
1982	-9.6	-11.1
1983	0.4	6.1
1984	5.3	7.1
1985	2.8	4.7
1986	1.2	1.7

13 LATEST GENERAL PERFORMANCE

	<u>Percent change 1986-85</u>	
	<u>Other Manufacturing</u>	<u>Percent of All Manufacturing</u>
(a) Real production	1.3	1.7
(b) Employment	-4.7	2.1
(c) Implied productivity ((a) less (b))	6.0	-0.4
(d) Average weekly wages and salaries	-1.0	3.3
(e) Implied unit labour costs ((c) less (d))	7.0	-3.7









## TRADE

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## TRADE

### 1 TRADE AND ECONOMIC GROWTH

As a leading trading nation, Canada has a policy commitment to an open, multilateral trading system. Trade in goods and services contributes more to Canada's economic wellbeing than to the economies of many other industrialized countries. For example, among the seven largest economies, only West Germany relies more on its external sales of products and services (Figure 1). As a percentage of gross domestic product (GDP), exports are four times larger in Canada than in the US, and are more than double the percentage for Japan.

TABLE 1  
GROWTH OF CANADA'S EXTERNAL TRADE<sup>1</sup>

(\$ billions)

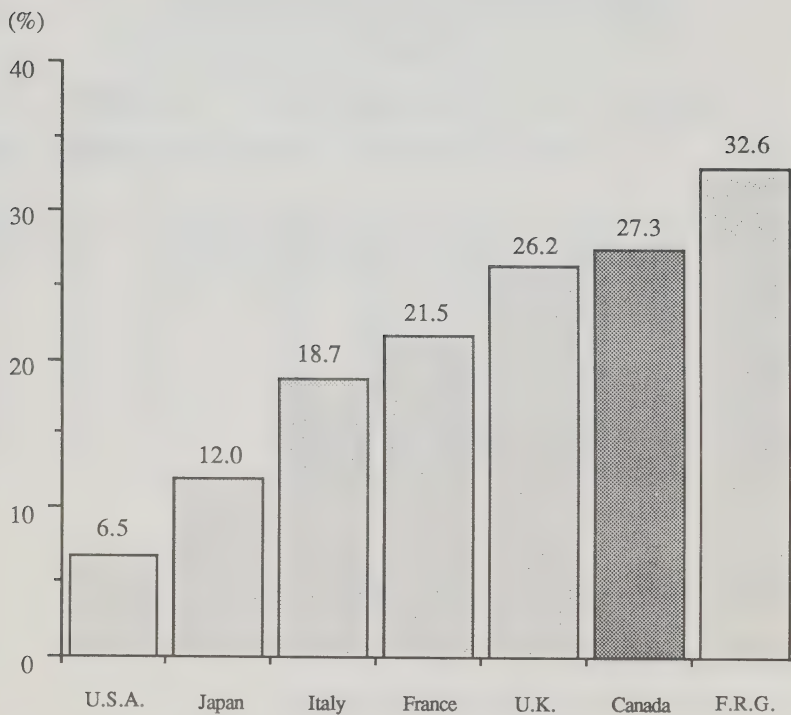
	<u>Exports</u>			<u>Imports</u>			<u>Balance</u>		
	<u>Goods</u> <u>Total</u>		<u>Services</u>	<u>Total</u>	<u>Goods</u>	<u>Services</u>	<u>Total</u>	<u>Goods</u>	<u>Services</u>
1976	38.2	6.1	44.3	36.6	8.7	45.3	1.6	-2.6	-1.0
1977	44.5	6.7	51.2	41.5	9.7	51.3	3.0	-3.0	-0.1
1978	53.4	7.8	61.2	49.0	10.0	60.1	4.3	-3.2	1.1
1979	65.6	9.5	75.1	61.2	12.1	73.3	4.4	-2.6	1.8
1980	76.7	10.9	87.6	67.9	14.0	81.9	8.8	-3.1	5.6
1981	84.4	12.4	96.9	77.1	15.9	93.0	7.3	-3.4	3.9
1982	84.6	12.0	96.6	66.7	15.8	82.6	17.8	-3.8	14.0
1983	90.7	12.6	103.3	73.1	16.7	89.7	17.6	-4.0	13.6
1984	112.2	14.2	126.4	91.5	18.6	110.1	20.7	-4.4	16.3
1985	120.3	15.7	136.0	102.8	20.0	122.8	17.5	-4.3	13.2
1986	120.6	17.4	138.1	110.5	21.0	131.4	10.1	-3.5	6.6
Yearly Percent Growth									
1976-86	12.2	11.1	12.1	11.7	9.2	11.3			

1 National Accounts basis.

Source: Statistics Canada, in Bank of Canada Review.

# EXPORTS OF GOODS AND SERVICES AS PERCENT OF GDP

## SELECTED OECD COUNTRIES: 1986



Source: National Accounts as reported to OECD, May 1987;  
IMF, International Financial Statistics, April 1987.

TRADE PERFORMANCE

Canada's trade performance has continued to improve with the economic recovery that began following the 1982 recession. Table 1 and Figure 2 show a rapid increase in merchandise exports (notably from 1983 through 1985) and in service exports. After a drop in 1982, imports also climbed. Economic expansion led to substantial merchandise surpluses ranging from \$10 billion to more than \$20 billion. The traditional deficit in services has held around the \$4 billion mark in the last several years. (The trade component in the system of national accounts does not include a large and continuing deficit in investment income flowing abroad in the form of interest and dividends. These, together with a small positive balance on transfers and remittances, result in a recurring deficit on current account in Canada's balance of international payments, with the recent exceptions of 1982, 1983 and 1984, three years of record merchandise trade surpluses.)

Canada has tended to improve its share of world export trade since the recession, if not to levels in the early 1970s. A combination of currency realignment and weakness in resource exports during 1986 led to a drop in global share to 4.1 percent from 4.5 percent the previous year (see Table 2). The overall improvement during the 1980s reflects a number of positive trends. Productivity rose following the recession, and unit labour costs compare favourable with those of the US, Canada's principal trading partner. Wage rates in Canada, translated into US dollars, often result in favourable wage comparisons. This gives many Canadian producers an advantage in the US market, and Canadian external sales as a whole have shifted more towards that market.

Another factor improving Canada's trade performance has been increased private sector initiatives as well as government efforts to encourage exports. Business associations such as the Canadian Manufacturers Association, the Canadian Chamber of Commerce and the Canadian Export Association have been active in promoting exports and trade missions. Sector associations such as the Electrical and Electronics Manufacturing Association of Canada and the Association of Consulting Engineers of Canada have also been involved in trade promotional work. Regional and bilateral business councils have been established to promote initiatives with business counterparts in other countries (Appendix I, Trade Councils). Finally, Canadian provinces actively promote trade through representation abroad and through financial assistance programs.



TABLE 2  
SHARES OF WORLD MERCHANDISE EXPORTS - MAJOR TRADING COUNTRIES

	<u>Percentage Share</u>				<u>Billions of \$US</u> <u>(F.O.B. Valuation)</u>		
	<u>1976</u>	<u>1981</u>	<u>1985</u>	<u>1986</u>	<u>1976</u>	<u>1985</u>	<u>1986</u>
Canada	3.9	3.6	4.5	4.1	39.0	87.3	86.7
US	11.6	11.9	11.0	10.3	115.4	213.1	217.3
Japan	6.8	7.7	9.1	9.9	67.2	175.7	209.2
France	5.6	5.1	5.1	5.6	55.7	97.7	119.4
West Germany	10.3	8.9	9.5	11.5	102.2	183.4	243.5
Italy	3.8	3.8	4.1	4.6	37.3	79.0	97.8
UK	4.6	5.2	5.3	5.1	45.4	101.3	107.0
World	100.0	100.0	100.0	100.0	991.6	1930.1	2,115.1

Source: United Nations, Monthly Bulletin of Statistics, May 1987; International Trade Statistics Yearbook, 1984, Vol. 1.

### 3 DIRECTION OF MERCHANDISE TRADE

Canada's trade is dominated by its bilateral relationship with the United States. In 1986, two-way trade totalled more than \$170 billion. As a result of earlier multilateral negotiations under the General Agreement on Tariffs and Trade (GATT), some 80 percent of Canadian exports to the US and 65 percent of US exports to Canada are slated to be duty free in 1987. The United States accounted for 77.6 percent of Canada's exports and 69.5 percent of its imports in 1986, calculated on a balance-of-payments basis. The US is accordingly Canada's largest customer and source of supply. Similarly, Canada is the largest customer of the United States, and, until at least 1984, its largest supplier. Statistical measures vary, but clearly show that Japan became the most important supplier to the US by 1986. Japan's emergence as leading supplier reflects two main developments. The first is the marked depreciation in 1986 of the US dollar relative to the Japanese yen at a time when US demand for Japanese products continued to be strong. On the Canadian side, weak oil and gas prices led to a slight reduction in the value of US imports from Canada compared to 1985.

# GROWTH OF CANADA'S EXTERNAL TRADE

( national accounts basis)

(\$ billion)



(\$ billion)



Source: Statistics Canada, Bank of Canada Review.

Oil-induced weakness in exports, coupled with some rise in all broad groups of commodity imports, led to a reduction in Canada's surplus with the United States from \$20.7billion in 1985 to \$16.8billion in 1986<sup>1</sup>. Up to the 1980s Canada's typical surplus on merchandise trade was offset by deficits in services, notably business services and travel, and investment income. Since 1983, however, a strong performance on goods has more than compensated for the deficit on intangibles, giving Canada's overall current account with the US a surplus. (Just as these positive developments in current transactions were taking place, the early 1980s saw a shift from positive to negative in capital transactions with the US. This reflects a complex of capital account items, including a continuing net deficit in foreign direct investment.)

TABLE 3  
DIRECTION OF TRADE - CUSTOMS BASIS, 1986 (\$ MILLION)

	<u>Total Trade</u>	<u>Domestic Exports</u>	<u>Imports</u>	<u>Balance</u>
United States <sup>1</sup>	167,634	90,297	77,337	12,960
Japan	13,534	5,908	7,626	-1,718
United Kingdom	6,273	2,552	3,721	-1,169
Germany	4,717	1,264	3,453	-2,189
South Korea	2,708	959	1,749	-790
France	2,547	962	1,585	-623
Italy	2,363	692	1,671	-979
Taiwan	2,344	599	1,745	-1,146
People's Republic of China	1,667	1,100	567	523
Netherlands	1,664	970	694	276
Mexico	1,577	397	1,180	-783
Brazil	1,474	652	822	-170
Belgium-Luxembourg	1,439	821	618	203
Hong Kong	1,356	315	1,041	-726
USSR	1,241	1,216	25	1,191
Australia	1,128	623	505	118
Sweden	1,009	221	788	-567
Other Countries	14,565	7,014	7,551	-537
TOTAL	229,240	116,562	112,678	3,884

<sup>1</sup> Excludes Puerto Rico and US Virgin Islands.

Source: Statistics Canada, Exports by Country, 65-003; 65-006.

<sup>1</sup> Estimates of trade using a reconciled basis between the two countries' data indicate the merchandise surplus exceeded \$18billion for 1986. Customs data, which exclude exports and trade with the US Virgin Islands and Puerto Rico, show a decline from \$16.6billion to \$13.0billion in Canada's trade surplus with the US. The following discussions of trade performance with countries other than the US, and the mix of commodity exports and imports, are based on customs data (Table 3).

Japan is Canada's second largest trading partner, accounting for 5.1 percent of all domestic exports and 6.8 percent of all imports. The bilateral exchange of goods is built heavily on a traditional complementarity between a significant resource supplier and a major industrial nation without extensive natural endowment. Some minor exclusions aside, fully-manufactured end-products made up little more than five percent of Canada's exports to Japan in 1986, but accounted for over seven-eighths of imports. This results in an end-product deficit of \$6.4 billion, enough to create a trade deficit of \$1.7 billion for the second consecutive year. Traditionally Canada has enjoyed a trade surplus with Japan. The makeup of trade is strongly reflected in the regional prominence of western Canada, which accounts for 80 percent of the \$5.9 billion in Canadian exports. Major exports include: food commodities, \$1.6 billion (\$1.3 from western Canada); pulp, paper and logs, \$1.4 billion (\$1.1 from British Columbia), and coal \$1.3 billion (again, \$1.1 billion from British Columbia). Imports totalling \$7.6 billion predominantly consist of automotive products (\$3.1 billion, of which \$2.6 billion cleared customs in British Columbia); electronics (\$1.4 billion) and machinery (\$0.7 billion), both of which primarily enter Ontario and Quebec.

The UK is third-ranked among Canada's trading partners, receiving 2.2 percent of our exports and providing 3.3 percent of all imports in 1986. Canada posted a deficit in its UK trade (\$1.2 billion) as with its next five ranking partners: West Germany, South Korea, France, Italy and Taiwan (Table 3).

#### 4 STRUCTURE OF MERCHANDISE TRADE

##### 4.1 Export Composition

The composition of Canada's exports has undergone a number of changes in the past 10 years. The leading sources of growth since 1976 - all approaching or exceeding rates of 15 percent per annum - have been communications and related equipment, transportation equipment, chemicals and refined petroleum. Together these commodity groups make up nearly 45 percent of the country's external merchandise sales, compared to a third in 1976 (see Table 4 and Figure 3).

Clearly the major influence has been the transportation equipment sector, rising from 24.6 percent of exports in 1976 to 32.6 percent 10 years later, with a value of \$38.0 billion. Though the relative importance of these exports diminished at the beginning of the 1980s, a rebound to much higher levels was reflected in both dollar and relative terms as recovery progressed, notably in the integrated North American auto industry. The principal exports of the sector are: assembled cars, trucks and chassis (\$22.8 billion); vehicle parts and engines (\$11.1 billion); and aircraft, engines and parts (\$2.4 billion).

Wood and paper products comprise the second largest category of exports at \$17.2 billion. Growth has averaged 10.4 percent per annum since 1976, somewhat below that for total exports (12.0 percent). Major exports of forest products are: newsprint (\$5.6 billion); lumber (\$5.0 billion); and pulp (\$4.1 billion). The industry had been facing increased competition and specific tariff protectionism.

TABLE 4  
PRINCIPAL CANADIAN EXPORTS<sup>1</sup>  
 (value in \$ billions)

Commodity Group	<u>1976</u> <u>Value</u>	<u>%</u>	<u>1981</u> <u>Value</u>	<u>%</u>	<u>1985</u> <u>Value</u>	<u>%</u>	<u>1986</u> <u>Value</u>	<u>%</u>	Average Annual % Growth 1976-86
Transportation equipment	9.2	24.6	15.8	19.5	36.4	31.4	38.0	32.6	15.2
Wood and paper	6.4	17.1	12.6	15.5	15.7	13.5	17.2	14.8	10.4
Food, beverages, and tobacco	4.1	11.0	9.2	11.3	9.2	7.9	9.5	8.2	8.7
Oil, gas and coal	4.5	11.9	8.0	9.9	11.8	10.2	8.1	7.0	6.1
Non-ferrous metals	2.2	5.7	5.4	6.7	6.0	5.1	7.4	6.3	13.1
Communications, computers, and related equipment	1.2	3.3	3.7	4.5	6.5	5.6	6.8	5.8	18.6
Chemicals	1.4	3.7	4.6	5.7	5.5	4.7	5.5	4.7	14.8
Industrial machinery	1.4	3.8	3.6	4.5	3.6	3.1	3.9	3.3	10.5
Metal ores, concentrates, and scrap	2.5	6.7	4.1	5.0	3.5	3.0	3.5	3.0	3.3
Iron and steel	0.8	2.2	2.3	2.8	2.4	2.0	2.4	2.1	11.1
Refined petroleum	0.6	1.5	2.6	3.2	3.3	2.9	2.1	1.8	14.1
Other products	3.2	8.5	9.2	11.4	12.2	10.6	12.1	10.4	14.2
Total, domestic exports	37.6	100.0	81.3	100.0	115.9	100.0	116.5	100.0	12.0
Re-exports	0.8		2.5		3.3		3.9		16.9
TOTAL EXPORTS	38.4		83.8		119.2		120.4		12.1

<sup>1</sup> Customs basis.

Source: Statistics Canada, Summary of Canadian International Trade.

Food, beverages and tobacco overtook oil, gas and coal in 1986 to become the third largest commodity export category with sales of \$9.5 billion. This was in spite of a declining price for wheat, the largest single export item at \$2.8 billion in 1986 (\$3.7 billion in 1985, \$4.7 billion in 1984). Meat and fish products collectively increased to \$3.4 billion, compared to \$2.7 billion in 1985. The 1986 slump in world oil prices led to a sharp decline in the value exports of crude petroleum (\$3.8 billion, from \$5.9 billion in 1985) and natural gas (\$2.5 billion, from \$3.9 billion). This meant a drop in total value of the oil, gas and coal category from \$11.8 billion in 1985 to \$8.1 billion in 1986.



In other resource activity, non-ferrous metals accounted for \$7.4 billion or 6.3 percent of all exports and showed a compound increase of 13.1 percent yearly. Communications equipment and chemicals, both high-growth exports, registered foreign sales of \$6.8 billion and \$5.5 billion respectively.

TABLE 5  
PRINCIPAL CANADIAN IMPORTS<sup>1</sup>

Commodity Group	(value in \$ billions)								Average Annual % Growth 1976-86
	1976 Value	%	1981 Value	%	1985 Value	%	1986 Value	%	
Transportation equipment	10.4	27.7	19.7	24.8	36.1	34.4	38.4	34.0	14.0
Communications and computers	1.5	4.1	5.1	6.5	8.6	8.2	9.4	8.3	19.8
Special industry machinery	3.2	7.0	7.0	8.8	6.7	6.4	7.5	6.7	8.9
Other industrial equipment	2.6	7.4	4.5	5.7	6.9	6.5	7.5	6.6	11.2
Food, beverages, and tobacco	2.8	4.5	5.0	6.3	5.8	5.5	6.5	5.8	9.0
Chemicals	1.7	8.6	3.8	4.8	5.4	5.2	5.8	5.2	13.3
Textiles, clothing and footwear	1.8	10.2	2.8	3.6	4.2	4.0	5.0	4.4	10.7
Oil and coal	3.8	4.8	8.8	11.1	4.7	4.4	3.6	3.2	-0.5
General purpose machinery	1.3	3.5	2.7	3.4	3.0	2.8	3.4	3.0	10.1
Non-ferrous metals	0.5	1.3	2.2	2.8	2.6	2.5	3.1	2.7	20.1
Metal ores, concentrates, and scrap	0.4	1.1	1.9	2.4	1.7	1.6	2.0	1.7	16.5
Other products	7.4	19.8	15.8	19.8	19.4	18.5	20.8	18.4	10.8
TOTAL IMPORTS	37.4	100.0	79.5	100.0	104.9	100.0	113.0	100.0	11.7

<sup>1</sup> Customs basis.

Source: Statistics Canada, Summary of Canadian International Trade.

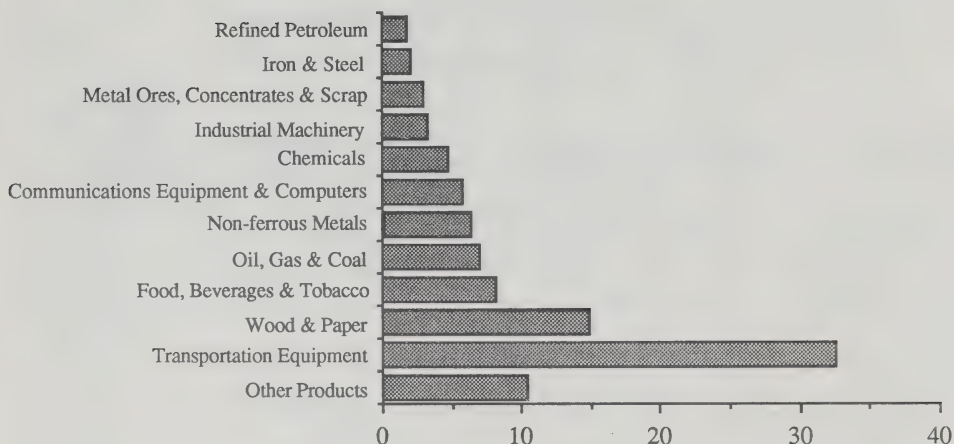
#### 4.2 Import Composition

Canada's imports are rather less concentrated than its exports. The largest 10 import groups (see Table 5 and Figure 3) account for 80 percent of the total for 1986, while the corresponding figure for exports is 88 percent.



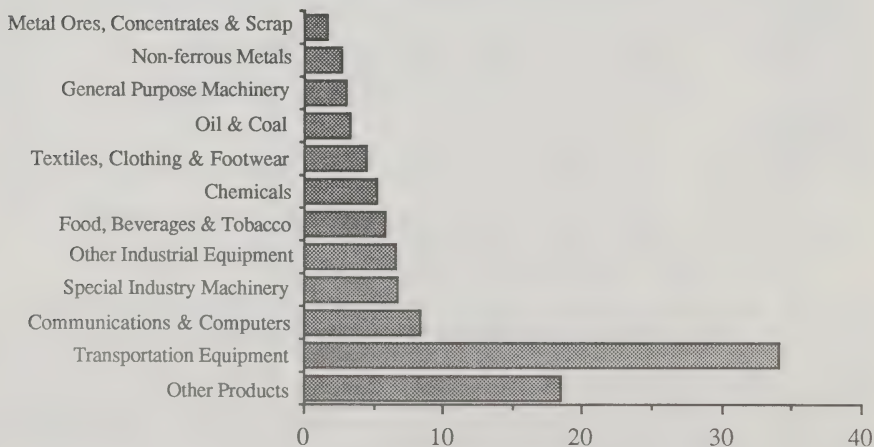
## PRINCIPAL CANADIAN EXPORTS: 1986

(customs basis)



## PRINCIPAL CANADIAN IMPORTS: 1986

(customs basis)



Source: Statistics Canada, Summary of Canadian International Trade.

Imports of transportation equipment predominate: \$38.4 billion in value, a 34 percent share of total imports, and an average annual growth rate since 1976 of 14.0 percent (11.7 percent of all imports). Imports of motor vehicles are the major component and reflect the size and integration of the auto industry under the Canada-US Auto Pact. Imports as well as exports show the cyclical movement of the North American industry into recession and its subsequent strengthening after 1982. At present, imports of motor vehicle engines, together with engine parts and a wide variety of other auto parts, total \$18.1 billion. Next in importance are assembled cars, trucks and chassis, totalling \$15.2 billion, while imports of aircraft, aircraft engines and parts account for a further \$3.0 billion.

Canada's growing economy has required the importation of a range of computer and communications equipment to meet industrial and consumer demand. The category has grown quickly over the past 10 years, with an average increase of nearly 20 percent per annum. Imports reached \$9.4 billion in 1986, for a share of 8.3 percent of all external purchases. Major items include computers (\$4.2 billion) and telecommunications and related equipment (\$2.8 billion).

A slightly below-average growth is apparent in a range of other industrial machinery and equipment, whether general in purpose or specific to individual industry processes. Imports of special industry equipment totalled \$7.5 billion in 1986 and included: agricultural machinery (\$1.7 billion); resource extraction and earth moving equipment (\$1.5 billion); and metal-working machinery (\$1.4 billion). Imports of general purpose machinery (e.g. for electrical uses and materials handling) accounted for a further \$3.4 billion. A variety of other equipment and tools form a larger category, totalling \$7.5 billion; these consist primarily of: tools and related products (\$2.1 billion); lighting and distribution equipment (\$1.7 billion); and instrumentation and professional equipment (\$1.6 billion).

Other classes of imports make up the remaining 40 percent or more of total imported merchandise, especially food, beverages and tobacco, chemicals, and textiles, clothing and footwear, each worth at least \$5 billion. Oil and coal, metal ore concentrates and non-ferrous metals round out the larger categories of imported products.

## 5 FEDERAL GOVERNMENT PROGRAMS FOR EXPORT

### 5.1 Export Marketing Programs

The Department of External Affairs' Program for Export Market Development (PEMD) helps Canadian companies develop export markets for their products and services. DRIE's regional offices administer the Program for External Affairs and provide full information on PEMD to local business clients.

As shown in Appendix II, PEMD shares the financial risks of Canadian businesses wishing to enter or expand their activities in foreign markets. Designed to meet individual company requests for marketing support, the program may provide financial assistance to eligible companies to help cover the costs of: participating in trade fairs abroad; market identification trips to potential foreign markets; bringing foreign buyers to Canada; bidding on specific projects outside Canada; forming export consortia in Canada; establishing facilities on location in order to sustain marketing efforts; and developing export markets for agriculture, fisheries and food products.

As well, PEMD underwrites some of the cost to industry of participating in national exhibits at trade fairs abroad and in outgoing trade missions. The program is also used to fund incoming trade visits by foreign buyers and government delegations. DRIE's regional offices and industry sector branches make recommendations regarding industry participation and may work with participating firms to ensure successful completion of projects. Companies interested in a particular fair or mission should advise DRIE regional office staff who will pass the information on to the appropriate geographic bureau in the Department of External Affairs.

## 5.2 Other Sources of Federal Export Assistance

The Department of External Affairs in Ottawa, together with its global network of 97 trade offices staffed by trade commissioners, is the best source for information on tariff and trade negotiations and on opportunities and competition in world marketplaces. It identifies opportunities for foreign capital projects and, with appropriate assistance from DRIE's regional offices and industry sector branches, helps Canadian firms to take advantage of them. It also makes exporters aware of the requirements of the Export and Import Permits Act. Companies may obtain direct information about the Department of External Affairs programs and services by phoning Info Export/Ottawa: 613 593-6435, toll-free 1-800-267-8376. The Info Export centre provides information directly or gives guidance on where to obtain information on foreign countries, export markets, trade regulations, trade fairs and missions and other matters of interest to Canadian exporters.

## 5.3 Export Development Corporation (EDC)

The major portion of federal export financing is provided by EDC. This federally-owned corporation has a multimillion-dollar budget to finance export sales through loans, loan guarantees and export insurance. The four main types of assistance are: credit insurance to cover up to 90 percent of losses caused by adverse political developments or non-payment by foreign buyers; loans and loan guarantees needed by foreign purchasers of Canadian goods and services; foreign investment insurance to provide coverage against political risks for Canadian investments in developing countries; and, surety and performance guarantees to insure Canadian companies against commercial and foreign calls on a guarantee, or against non-performance by a consortium partner. Further information is available from:

Export Development Corporation:

Head Office, 151 O'Connor Street, PO Box 655, Ottawa, Ont., K1P 5T9, telephone (613) 598-2500

EDC Regional Offices: The telephone numbers of EDC regional offices are: Vancouver (604) 688-8658; Calgary (403) 294-0928; Toronto (416) 364-0135; Montreal (514) 878-1881; Halifax (902) 429-0426. Three new district offices are as follows: Manitoba-Saskatchewan (in Winnipeg), (204) 943-3938; Ottawa (613) 598-2922 and London, Ontario (519) 679-6523.

#### 5.4 Canadian International Development Agency (CIDA)

CIDA's Business Cooperation Branch provides financial support under the Industrial Cooperation Program to companies which have identified joint venture opportunities to undertake preliminary Starter Studies (maximum \$15,000). This is usually followed by a more in-depth Viability Study (maximum \$100,000), should the initial investigation prove positive.

The Viability Study should take the company to the conclusion of negotiations on its venture. If appropriate, support is also available to cover 75 percent of technology testing (maximum \$250,000) related to the joint venture. Once a firm has made the commitment to enter a joint venture, the Project Support Program (maximum \$250,000) is available to offset those costs incurred in the early stages of operation (approximately one year) that are peculiar to the developing country, and beyond those normally incurred in establishing a similar venture in a more industrialized country. The normal investment and costs involved in maintaining the venture are the responsibility of the two partners involved. Finally, to ensure that Canadian companies have access to sourcing from international institutions, the program provides financing up to \$350,000 for project preparation pre-feasibility studies.

For information on the CIDA Industrial Cooperation program, call: (819) 994-4348 in Ottawa.

#### 5.5 Canadian Commercial Corporation (CCC)

This federally-owned corporation ties together the procurement requirements of foreign governments and international agencies with the supply capabilities of Canadian producers of goods and services.

CCC provides Canadian businesses (many of them relatively small), with bidding opportunities for goods and services required by foreign governments and international agencies. It also acts as prime contractor when a government-to-government export arrangement is preferred by the Canadian supplier and the foreign buyer, or in projects financed by development banks and other international financial institutions such as the World Bank. Further information is available from:

Canadian Commercial Corporation, 50 O'Connor Street, 11th Floor, Ottawa, Ontario, K1A 0S6, telephone (613) 996-0034.



6 EXPORT FINANCING BY CANADIAN CHARTERED BANKS

As at March 31, 1987, the 69 Canadian chartered banks had assets of \$458.5 billion, of which \$41.1 billion was held by Schedule B (foreign-owned) banks and \$417.4 billion by Schedule A banks. The banks have a national network of some 7,000 branches in 1,700 communities. In addition, they maintain more than 25 international centres serving Canadian companies from coast to coast, with 2,300 employees involved directly in providing international services. The Canadian chartered banks also have collectively some form of representation in almost every country which has a substantial trade relationship with Canada.

While chartered banks provide about 95 percent of export financing, their participation in officially government-supported export financing has declined over the past six years, from 45.4 percent in 1978 to under five percent in 1986, reflecting increased risks in international markets.

In addition to their domestic and international presence, some of the Canadian banks have highly innovative merchant banking subsidiaries. Canadian banks offer the following finance related services:

Credit Insured Canadian Exports: Allow Canadian exporters to obtain EDC insurance through the banks, which handle credit assessments and assume responsibility for all credit insurance negotiations and obligations.

Short-term Credit: For purchases of industrial materials, spare parts and consumer goods, usually on terms up to 180 days.

Medium-term Credit: For capital goods, including industrial machinery and heavy equipment, on terms up to five years.

Distributor Credit: For distributors of automotive, construction and industrial equipment, who purchase equipment for resale to end-users.

Packaging Capability for Major Projects: Grouping orders to be placed with several manufacturers for one project. This simplifies negotiations and frequently improves available terms.

Lines of Credit: Established prior to placing orders. These enable importers to negotiate with exporters knowing that credit will be available.

Canadian Banks also offer the following trade-related services:

- 1 Trade financing:
  - Buyer credits
  - Seller credits
  - Forfeiting
  - Discounting of trade paper
  - Discounting of term acceptances under letters of credit
  - Financing of foreign accounts receivable
  - Import lines of credit
  - Countertrade
- 2 Letters of credit:
  - Export
  - Import
  - Bid, downpayment and performance guarantees
- 3 Foreign currency services:
  - Foreign exchange
  - Foreign currency term deposits
  - Foreign currency loans
  - Counselling on foreign exchange and money market operations
  - Forward exchange contracts
- 4 Payments and collections:
  - International payments - cable, telex, telephone, mail
  - International collections - clean and documentary bills
  - Direct collection service
  - Lock boxes
- 5 Trade Services:
  - International market information
  - International trade contacts
  - International credit information
  - International project profiles
- 6 Project financing:
  - Specialized financing for major capital projects
  - Financial advisory services
- 7 Other:
  - International cash management
  - Leasing

#### 7 PROVINCIAL INVOLVEMENT IN EXPORT DEVELOPMENT

Provincial governments have also been actively involved in promoting exports. These provincial activities have tended to supplement federal programs by starting where federal programs end. Several provinces offer companies a considerable range of programs that assist them to participate in international trade fairs, to research new markets and to improve their marketing skills. Provincial ministers and officials have also led missions to foreign markets and have received many foreign buyers.



A number of provinces have trade offices abroad which actively engage in promoting exports and seeking potential investors for their respective provinces. Contacts for specific provinces are available from the Trade Liaison Division at External Affairs, (613) 996-3324.

In the area of export development, where both federal and provincial governments have marked interest in common export opportunities, there has tended to be a high degree of co-ordination. This ongoing co-ordination at the officials' level is enhanced by discussion at the ministerial level, including federal-provincial meetings of trade ministers. Extensive consultations are held on an annual basis on trade objectives and priorities. These mechanisms present the opportunity to discuss questions of export promotion and the implementation of marketing plans in a way that complements activities in day-to-day operations.

## 8 COUNTERTRADE AND CANADIAN TRADING HOUSES

### 8.1 What is Countertrade?

The term "countertrade" describes transactions in which the purchase of a product and/or service by a company or country is linked to a reciprocal purchase or benefit. The reciprocation might involve counterpurchase, compensation, buyback, barter, or switch by the seller, or some other form of offset against the original sale, such as technology transfer, licensing, industrial co-operation, joint ventures, local content or domestic investment. The rationale and reasons for demanding countertrade are various.

### 8.2 How Did Countertrade Develop?

In the 1960s and 1970s, countertrade was typically found in east-west trade. It was primarily undertaken in major capital projects where compensation and buybacks were used to finance projects by marketing the resulting products.

The tenfold increase in oil prices during the years from 1973 to 1980 created major balance of payment problems for developing countries, and resulted in hard currency shortages. OPEC surpluses generated from oil price increases during these years were deposited with international banks which, in turn, recycled these funds to the oil-importing developing nations (a large majority of them recently independent and with little expertise in international financial matters). In turn, the developing nations used these funds for large capital projects and to refinance (at least partially) the balance of payment deficits created by the need to import oil and to sustain economic growth.

By continuing on this path, developing nations went deeper into debt. This already onerous situation was further exacerbated by the dramatic increase in interest rates which took place towards the end of 1980. By 1982, interest payments by the less developed countries accounted for up to 45 per cent of their total exports of goods and services, and debt loads continue to represent a serious burden.

The conditions created by these factors alone were enough to give rise to more countertrade demands. Developing countries recognized, however, that despite the complaint by industrialized countries that countertrade was a regressive practice and contrary to the multilateral free-trading system, the latter also engaged in various forms of restrictive economic activity such as tariff and non-tariff barriers, export subsidies, and other measures which restricted export markets for developing countries.

Developing nations have often used countertrade for a number of reasons including: to finance imports; to gain access to western markets, marketing services and new technology; and to induce foreign investment and commitments to other forms of future national economic development. For these countries, the options are few, because the consequences of inflation and unemployment are frequently social unrest and revolution.

#### 8.2.1 Industrial Offsets Among Developed Countries

Industrialized nations, as a result of internal political and social pressures, have added to the expansion of countertrade by demanding offsets to substantial capital goods purchases, major projects, and military procurement. This practice is seen by some as being of much greater future importance than traditional commodity-oriented countertrade. Exporters of capital goods and services must now consider, as part of their business strategy: the implications of purchasing foreign-made goods for internal use and external disposal; subcontracting production; overseas joint ventures in R & D and manufacturing; the potential loss of domestic employment; and the transfer of technology. This form of countertrade is now considered almost a standard requirement in tendering for overseas projects.

A major growing problem in coping with countertrade and offsets is the ability to sell manufactured products at home or abroad. External selling plagued by the lack of companies offering this form of countertrade service; some may offer this service, but few have any true hands-on experience.

Internal sales require a level of sophistication found only in a number of multinationals with a large and diverse purchasing base, who are able to absorb products from foreign suppliers as a consequence of countertrade. This area is plagued by quality control problems, particularly in products developed countries but including those from some industrialized nations.

#### 8.2.2 Trends in Countertrade

The development of countertrade has been reflected in the growing number of countries using the practice. In 1972, 15 countries, mostly east European, were involved in countertrade. In 1979, this had increased to 27, and by 1983 expanded to over 88.

Various press reports cite countertrade as being anywhere from one to 40 percent of global trade, or from \$21 to \$850 billion (US). The reasons for the tremendous variation in global estimates are the lack of agreement on what constitutes countertrade, the lack of data on transactions and the secrecy that surrounds its practice. A conservative estimate of about 10 percent of world trade, developed by Business International of New York, appears to be the most widely accepted.

### 8.3 Canada's Experience with Countertrade

#### 8.3.1 The Role of Countertrade

The nature, type and destination of Canadian exports, as well as the structure of the Canadian economy, have had a major influence on the relatively low level of countertrade encountered by and engaged in by Canadian exporters to date. Reasons for this include (with exceptions):

- Most countertrade has been in the areas of manufactured products and capital projects;
- The bulk of Canadian exports involves raw and semi-processed forms which are less often subject to countertrade;
- Most Canadian export activity is in markets which are not actively involved in countertrade, i.e., US, Japan, and other OECD countries;
- Much of our trade involves sales between subsidiaries and their parent companies (particularly in manufactured products); and,
- The assuming of the countertrade responsibilities of Canadian subsidiaries by foreign parent companies.

#### 8.3.2 The Impact of Countertrade

While countertrade may affect 10 percent of world trade, to date, Canadian exports have been little affected. The key factors which have kept this impact minimal include the following:

- the dominance of the US and other OECD countries as export markets for Canadian goods;
- the predominance of food and raw materials in Canada's exports-goods which, to date, have not been subject to extensive countertrade pressures.

The Department of External Affairs estimates that approximately \$0.5 to \$1.0 billion of Canadian exports in 1985 involved some form or degree of countertrade. This is equivalent to less than one percent of total Canadian exports.

8.3.3 The Responses of Canadian Exporters to Countertrade

8.3.3.1. Organization and Sector

There have been three principal organizational responses to countertrade by Canadian exporters, depending on the level and frequency encountered. These include:

- Assigning an individual(s) within the company to: develop knowledge of different countertrade techniques; to establish contacts with countertrade practitioners and trading companies; and to co-ordinate the companies' countertrade activities. This might include employing an outside countertrade specialist to assist in arranging countertrade deals.
- Establishing an internal countertrade unit which actively arranges for and disposes of goods, both internally and externally, operating on a profit or cost basis.
- Creating a full-scale trading company subsidiary, offering countertrade and related services to the public and operating on a profit basis.

Canadian companies which encounter the practice are mostly in electronics, communications, industrial equipment, transportation, agricultural equipment and resources.

8.3.3.2 Other Sources of Countertrade Services

In addition to organizational responses, a number of different sources of countertrade services and avenues for disposal of goods are available to Canadian exporters:

- Canadian multinationals such as Noranda and Massey-Ferguson are active in arranging countertrade deals and disposal of goods.
- Canadian subsidiaries of foreign trading companies such as Metallgesellschaft, Mitsubishi, Mitsui and other foreign-owned trading companies, are active as above.
- Foreign and Canadian banks offer countertrade services by providing: information on the various forms of countertrade and specific practices in particular countries; escrow accounts; and bridge and pre-export financing. They also help in negotiations concerning countertrade arrangements, by locating buyers or appropriate trading companies and co-ordinating their involvement, and by offering related countertrade consulting and services.
- Small and medium-sized Canadian trading companies with specific product knowledge, market expertise, and contacts are doing countertrade in support of their own trade and on an ad hoc basis for other exporters.



### 8.3.3.3. International Expertise

Countertrade expertise is not confined to Canadian sources. European and American trading companies, some with offices in Canada, have countertrade expertise relevant to an exporter's requirements and these services have been used. A common misconception is that goods received by Canadian exporters through countertrade deals end up in Canada, e.g., the frequently cited example of Romanian shoes or wine coming into Canada. This is generally not the case, because Canada has a limited market for the type of goods generally received in countertrade. Many of these goods are not of acceptable quality and often do not meet consumer standards. Exporters should try to exclude provisions that require the goods to be sold in Canada.

### 8.3.4 The Role of Canadian Trading Houses

The Directory of Canadian Trading Houses (released in December 1986, based on the Business Opportunities Sourcing System) identifies 152 trading houses of all sizes offering different levels of countertrade services. These results demonstrate that there are alternatives to the larger commodity traders in some cases, and that countertrade expertise is developing in Canada. Small and medium-sized Canadian trading houses can offer services and expertise in situations with one or more of the following characteristics:

- Transactions up to approximately \$1 million, depending upon the product and country of origin (larger companies find these unprofitable);
- Value-added manufactured products;
- Mixed product offerings of small proportions.

In many circumstances, trading houses can be expected to be more creative and innovative than the larger trading companies.

The larger trading companies with countertrade skills appear to be well-known by affected exporters, and many exporters are developing their own expertise through experience.

In October 1985, the Department of External Affairs released the Countertrade Primer for Canadian Exporters, aimed at helping Canadian exporters to deal with the intricacies of countertrade. This report includes a list of trading houses with expertise in countertrade, and profiles of countertrade practices in 44 countries.

The Trading House and Countertrade Division of the Department of External Affairs is located on the 5th Floor, Tower C, Lester B. Pearson Building 125 Sussex Drive, Ottawa, Ontario, K1A 0G2, (613) 996-1419. It maintains files on the countertrade practices of over 75 countries and provides exporters with a wide range of informative publications and advice on countertrade matters, as well as referral to private sector expertise.

9 TRADE POLICY9.1 Commitment to Multilateralism

The cornerstone of Canadian trade policy is a commitment to an open multilateral trading system, as embodied in the General Agreement on Tariffs and Trade (GATT). Canada has sought greater and more secure access to world markets through recurring rounds of GATT negotiations and has, when necessary, resorted to its GATT rights to defend its trading interests. As the prime minister stated, the bilateral moves to enhance trade between Canada and the US are aimed at complementing GATT, and not at circumventing it by creating an insular North American market. Canada remains open and committed to maintaining its multilateral trade relations. Efforts directed to liberalizing trade with the US will not preclude Canada's efforts to further develop trade with other parts of the world.

9.2 Canada-US Relations and Trade Negotiations

Because of its role in the Canadian economy, the Canada-US relationship is given special attention in Canadian trade policy. Trade is an integral part of a unique overall relationship involving over \$190 billion in two-way trade in goods and services, extensive investments, technology transfer and a vast network of intra-corporate exchanges. The relationship is underpinned by geographic proximity, mobility of capital, similar business and economic structures, and reductions in tariffs through earlier GATT rounds. Obtaining improved and more secure access to the US market through bilateral negotiations, and in the new round of multilateral trade negotiations will continue to be important to Canada.

9.3 Canada-US Free Trade Negotiations

In March 1985, in Quebec City, the prime minister of Canada and the president of the US committed themselves to halt protectionism in cross-border trade in goods and services. Formal negotiations on Canada-US trade liberalization began in May 1986. The Canadian negotiator, Simon Reisman, is a former deputy minister of finance with extensive experience in bilateral trade dimensions, having helped to negotiate the Canada-US Auto Pact. Peter Murphy, the US negotiator, was previously US ambassador to the GATT. The ongoing negotiations are supported by intensive consultations between the federal and provincial governments and the private sector.



APPENDIX I

TRADE COUNCILS

This is a listing of the trade councils currently active in Canada. In each case, a contact has been provided who is not necessarily the chief elected officer but to whom enquiries may be directed.

ASIA/PACIFIC

Canada-India Business Council

c/o Canadian Chamber of Commerce

1160-55 Metcalfe Street

Ottawa, Ontario K1P 6N4

(613) 238-4000

Peter Egyed, Trade Promotion Officer

Canada-China Trade Council

133 Richmond Street West, Suite 310

Toronto, Ontario M5H 2L3

(416) 364-8321

John Cheh, Executive Director

Canada-Japan Businessmens

Cooperation Committee

c/o Alcan Aluminum Ltd.

1188 Sherbrooke Street West

Montréal, Québec H3A 3G2

(514) 848-8000

Michael C. de E. Miller,

Vice-President

Canada-Korea Business Council

c/o Canadian Chamber of Commerce

1160-55 Metcalfe Street

Ottawa, Ontario K1P 6N4

(613) 238-4000

Bronwyn Best, Trade Development  
Officer

Canada-Pakistan Economic  
and Trade Council

3421 Peel Street

Montréal, Québec H3A 1W7

(514) 842-7582

George Marshall

Executive Director

Canada-Philippines Council

c/o Bank of Nova Scotia

44 King Street West, 2nd Floor West

Public and Corporate Affairs

Toronto, Ontario M5H 1H1

(416) 866-5750

Anne Maycock, Coordinator  
Special Events

Canadian Committee, Pacific Basin  
Economic Council

c/o Canadian Chamber of Commerce

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APPENDIX IIProgram for Export Market Development (PEMD)

The Program for Export Market Development (PEMD) helps Canadian businesses to develop, increase, sustain and diversify their export activities by sharing with them the financial risks of specific export marketing efforts. PEMD was designed to encourage Canadian companies to begin export marketing; to encourage established exporters to enter new export markets; and to undertake additional export development activity.

PEMD is administered and delivered by External Affairs as well as the Department of Regional Industrial Expansion (DRIE) regional offices across Canada. PEMD is available to eligible Canadian companies with an export capability for taking export marketing initiatives.

PEMD covers various types of industry and government-initiated activities, all designed to assist exporters to undertake the various steps required to identify, develop new or expand existing export markets.

1 Industry-Initiated:

During 1971-86, a total of 32,319 industry-initiated applications were approved for PEMD assistance to some 12,500 companies for a value of nearly \$311 million. Only \$176 million was actually claimed. Reported sales attributable to this PEMD assistance were about \$6.5 billion.

PEMD provides up to 50 percent of the eligible costs incurred by a company in its penetration of new markets. These contributions are repayable if export sales are achieved.

Specific Project Bidding: Government may share the cost of industry bidding on specific projects anywhere outside Canada. The projects typically involve a formal bidding procedure in competition with foreign firms for consulting services, engineering, construction and the supply of equipment and other Canadian goods and services.

Market Identification: This is designed to help companies to identify potential markets, and to determine whether exporting to such markets would be commercially feasible and to make industrial co-operation arrangements. Eligible activities include: visits, seminars, technical presentations, market studies, and certain industrial co-operation arrangements which result in significant export benefits to Canada. It also helps Canadian companies bring potential foreign buyers to Canada or to an approved location abroad. The foreign buyers must represent importers located abroad and must play a major role in influencing purchasing decisions or industrial co-operation agreements.

Participation in Trade Fairs Abroad: This helps Canadian exporters participate in conventional trade fairs and industrial exhibitions outside Canada. Companies may take part in the same (or essentially the same) event up to three times. The events that PEMD supports are generally of limited duration rather than ongoing.

Export Consortia: Canadian firms, (especially small and medium-sized businesses) are encouraged to establish jointly an incorporated company engaged solely in the export of their products and services. Support for the formation and initial operation of new consortia for up to two years is available.

Establishment of Permanent Sales Offices Abroad: This helps Canadian exporters to undertake a sustained marketing effort in a foreign market by establishing facilities on location. After completing a detailed study to determine the viability of establishing facilities in a particular export market, and preparing a three- to five-year market penetration plan, the implementation costs determined by the plan may be shared for up to two years.

Special Activities - Food, Agriculture and Fish: This assists Canadian non-profit food, agriculture and fish organizations, marketing agencies and related industry associations to undertake new or additional export initiatives as an extension of normal business activities. This section supports such traditional export development activities as: market identification, trade fairs, incoming buyers, marketing studies, test marketing and trial shipments. When appropriate, assistance may cover capital or operating costs for special production equipment, handling and storage facilities, technical training or promotion facilities in Canada. Long-term market development plans and projects including generic promotion, establishment of overseas representation and technical training in Canada for representatives of potential or existing markets, may also be eligible. Assistance to non-sales organizations may be on a non-repayable basis.

Marketing Agreement: This type of funding is primarily aimed at medium-size companies with some export experience that wish to undertake a one- to two-year concentrated marketing program. The agreement may cover a combination of activities, other than "Special Activities", and no other assistance will be provided during the activity of the agreement.

## 2. Government-Initiated:

This is the vehicle through which the federal government plans and implements exhibits at trade fairs abroad, outgoing and incoming trade missions, and incoming trade visits by foreign buyers and government delegations.



The government underwrites some of the cost to industry of participating in promotional events organized by the Department of External Affairs. These events are designed to inform foreign buyers about Canadian products and capabilities and to study export markets. They are intended to benefit a wide cross-section of Canadian industry by promoting Canadian manufacturing capabilities, services and products in the marketplaces of the world. On-site sales, the appointment of agents, and the assessment of competition are some of the advantages Canadian companies gain from participation. Most important, PEMD gives the Canadian manufacturer an appreciation of foreign business methods, problems and customer preferences.

Government-initiated PEMD supports initiatives from other units within the government by providing the tools with which trade commissioners, the industry sector branches of DRIE, the geographic branches in External Affairs and DRIE's regional offices (reflecting provincial inputs) fulfill their export development responsibilities.

The program encompasses a wide variety of trade promotion techniques through trade fairs abroad, trade missions and trade visitors. These projects are developed in consultation with the DRIE industry sector branches and regional offices, as well as trade commissioners abroad. The choice of projects also carries out commitments implicit in ministerial missions, policy statements and international trade agreements.

The level of government-initiated PEMD activity undertaken each year depends on: the export promotional needs and capabilities of Canadian industry; market accessibility; the geographical and/or industry priorities established by the Department of External Affairs; the total resources of the department; and co-ordination with the provinces.

Companies wishing further information on PEMD should contact the regional office of DRIE or External Affairs in Ottawa.



APPENDIX IIIInternational Industrial and Technological Arrangements

An increasingly complex set of regulatory instruments and domestic industrial and economic development policies have evolved both in Canada and abroad. The capacity of many Canadian industries to take advantage of international opportunities is being influenced by the extent of their involvement in direct investment undertakings, joint ventures and licencing arrangements.

These techniques complement conventional negotiations towards reductions in trade barriers and export promotion activities. Access to the latest technology and to scarce investment capital will be a major factor in industrial innovation and trade performance of individual countries in the 1980s. For its part, Canada has negotiated such arrangements with almost 30 governments, providing government-to-government frameworks for fostering development and trade-related commercial undertakings by the private sector. Some of these arrangements are highly structured (e.g., with Middle Eastern countries), while others are more informal.

Western Europe and Japan

With western Europe and Japan, the emphasis has been on encouraging investment in areas beneficial to the national economy; promoting an awareness of Canadian products and expertise; and fostering a better understanding of the effects of national industrial policies on trade in both directions. This has been supplemented by government-sponsored private-sector missions which, in addition to exploring direct export opportunities, expose Canadian businessmen to new technologies and products and encourage company-to-company contacts. For example, through the Economic Cooperation Agreement with the EEC, Canadian industry has increased acceptance of Canadian timber-frame construction techniques in the important European housing market. Considerable efforts have been made to encourage Japanese investment in mineral processing and petrochemical facilities in Canada to diversify the concentration in the extraction of raw resources. In September 1985 the Minister of International Trade and Industry of Japan and the Minister of Regional Industrial Expansion issued a joint statement in which they agreed to promote industrial co-operation by means of joint ventures, licensing agreements, joint research and development, and two-way investment and co-operation in other markets. The governments will foster an environment conducive to expansion of industrial co-operation. Areas for industrial co-operation will be identified at annual meetings. The initial agreement was to focus on ceramics, advanced manufacturing technology and microelectronics.

A Canada-France agreement on economic and industrial co-operation was signed by the two ministers responsible for external affairs on January 15, 1987. Among other things, it promotes co-operation between small- and medium-sized enterprises in both countries, specifically in areas of advanced technology.

Eastern Europe

With the state-run economies of eastern Europe and many developing countries where commercial undertakings are frequently entered into, with or through the state and state-trading organizations, bilateral co-operation arrangements also provide the necessary political impetus to promote Canadian trade and investment and an awareness of Canadian capabilities in certain areas through joint working groups, exchanges of missions, etc. It is often difficult for Canadian firms to penetrate non-traditional markets due to a lack of understanding of the particular features of state-trading systems, difficulties in accepting countertrade demands, and high marketing costs associated with prolonged negotiations. In these agreements, the Canadian government acts mainly as a facilitator. To a considerable degree, the effectiveness of these arrangements depends on the level of interest shown by the private sector.









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## ENERGY

Canada's energy needs are met primarily by oil, electricity, natural gas and coal. In 1985, the share of oil as a source of energy amounted to 40.1 percent; electricity 14.8 percent; natural gas 25.5 percent; and coal 14.6 percent. Other forms such as solar, wind, biomass and geothermal energy made up the remaining five percent.

While some east coast crude oil requirements are met by imports, pipeline construction plans will ensure that soon all of Canada will have the security of a domestic production and delivery system.

While having increased, prices for energy in Canada are relatively stable, and are not normally subject to uncontrolled fluctuations when prices and supplies in other countries rise and fall.

### I THE ATLANTIC AND WESTERN ACCORDS

#### I.1 The Atlantic Accord

On February 11, 1985, the Government of Canada and the Government of Newfoundland and Labrador signed the Atlantic Accord setting out the terms and conditions on the management and revenue-sharing of offshore oil and gas.

The 68-clause agreement is based on the principle that all producing provinces must be treated equally in areas such as revenue-sharing, whether the resource is on land or offshore. The Atlantic Accord created the Canada-Newfoundland Offshore Petroleum Board and the Canada-Newfoundland Development Fund.

Composed of seven members (three appointed by each of the two governments, plus a mutually acceptable chairperson) the Canada-Newfoundland Offshore Petroleum Board is empowered to make decisions on the management of the Newfoundland and Labrador offshore oil and gas resources. Among other things, it grants production licences, issues lands for exploration, and approves development plans.

To help the province prepare itself for offshore development and production, the Atlantic Accord established the \$300-million Canada-Newfoundland Development Fund. The federal government provides \$225 million to this fund over the first five years, and the provincial government contributes \$75-million. The fund will help the province build the infrastructure necessary to take advantage of the opportunities created by offshore activity.

## 1.2 The Western Accord

On March 28, 1985, the governments of Canada and the energy-producing provinces of Saskatchewan, Alberta and British Columbia reached a comprehensive oil and natural gas agreement, the Western Accord, which provided for total deregulation of Canadian crude oil pricing and marketing, took steps to make the natural gas industry more market-oriented, and eliminated or phased out a number of federal oil and gas taxes or charges.

The agreement encourages energy security and economic growth in Canada by stimulating investment in the oil and gas industry. Federal taxation of the petroleum industry was also to be made more profit-sensitive, and legislation to implement the agreed fiscal changes was passed or is in the process.

The Government of Canada removed the following taxes or charges: the Natural Gas and Gas Liquids Tax, the Incremental Oil Revenue Tax, the Canadian Ownership Special Charge (COSC), export charges on both product and crude exports and the Petroleum Compensation Charge (PCC), and the Petroleum and Gas Revenue Tax (PGRT).

The Petroleum Incentives Program (PIP) ended as of March 31, 1986 except for certain existing agreements which will be "grandfathered" to no later than December 31, 1987.

Any changes in provincial royalties and incentives will remain completely within the jurisdiction of each province, but will be consistent with the agreed-upon principle that the net benefits resulting from the above changes will go to the oil and gas industry.

Controls on crude oil prices were removed as of June 1, 1985, and natural gas pricing was deregulated in November 1986.

## 1.3 New Frontier Energy Policy

On October 30, 1985, the government announced a new Frontier Energy Policy, which replaced the National Energy Policy. The comprehensive energy policy statement followed the successful negotiations that led to the Atlantic and Western accords. The legislative framework has been prepared in consultation with the governments of Newfoundland and Labrador, Nova Scotia, the Yukon and the Northwest Territories. In addition, the legislation has been discussed with northern native groups and representatives of the petroleum industry.

### 1.3.1 Management Regime

The management regime for Canada's energy frontiers is in the Canada Petroleum Resources Act (CPRA), which replaced the Canada Oil and Gas Act. It is designed to simplify the regulatory framework and provide a consistent legislative base for oil and gas companies operating in the frontier regions. It also provides the basis for discussions on how these frontier initiatives will be implemented in the north.

Exploration rights will be issued through an Exploration Licence. If a company's exploration effort results in the discovery of significant deposits of oil and/or gas, the company will have the right to a Significant Discovery Licence. If economics and technology permit commercial production, a Production Licence will be issued.

Under the CPRA, the government has decided to implement a lands issuance process based on a single bidding criterion, with rights going to the highest bidder.

The key factors in determining the criteria for bidding in the "best bid wins" process will be the geological prospectivity, and the policy objectives of the coastal province or northern territory.

For highly prospective areas, such as those close to an existing commercial exploration discovery, a cash bonus may be most appropriate. Where the exploration effort is less advanced, and the risk greater, a form of work commitment may be more suitable. A combination of these approaches - a work bonus bid system in which the cash bid would be refundable as work is completed - could be used in other areas.

Before any Exploration Licence is issued, the Government of Canada will ensure that the views of native groups and communities are taken into account, as well as the protection of the environment, appropriate levels of local and national benefits, and Canadian participation. The legislation establishes a maximum term of nine years for all exploration licences.

#### 1.3.2 Crown Share

The Canada Oil and Gas Act provided for a 25percent crown share in all interests held in frontier lands. Under the CPRA, there are no crown share provisions.

#### 1.3.3 Canadian Ownership

Formerly, federal legislation required a 50percent Canadian Ownership Rate (COR) for companies requesting a production licence in frontier lands. Under the Canadian Petroleum Resources Act, the COR applies only to production licences for discoveries drilled after March 1982, when Parliament passed the Canada Oil and Gas Act.

Where the COR is below 50percent at the beginning of a development, the CPRA requires a company applying for development approval to submit a plan showing how it will attain a COR of not less than 50percent, using reasonable commercial measures, by the time the production licence is issued. In the event that, despite an agreed plan, a 50percent Canadian ownership level is not reached by the time of production licence approval, the minister will have the power to require an auction of that portion of the licence sufficient to raise Canadian ownership to 50percent. The sale price will never be less than an independently determined, third-party evaluation of fair market value.



### 1.3.4 The Role of Petro-Canada

The Canada Petroleum Resources Act contains no provisions giving Petro-Canada preferential treatment.

### 1.3.5 Fiscal Initiatives

The Government of Canada believes that a high level of petroleum investment and job creation in Canada can best be achieved by enhancing the rewards for success rather than by subsidizing effort. To facilitate the shift to industry of a greater portion of the risks and rewards of oil and gas exploration and development, the government has announced its intention to implement a number of new fiscal measures.

#### 1.3.5.1 Royalties

The Atlantic Accord transferred the responsibility for establishing royalties and provincial taxes to the Government of Newfoundland and Labrador for the area offshore Newfoundland. In time, similar treatment may be accorded to other jurisdictions. However, the present frontier royalty system set out in federal legislation is not sufficiently profit-sensitive. Therefore, the federal government has announced a number of changes to the frontier royalty regime for regions where the responsibility for establishing royalties has not been transferred to a province.

Frontier Royalty Structure: The 10-percent Basic Royalty and Progressive Incremental Royalty were eliminated and replaced with a royalty that, prior to project payout, commences at a rate of 1 percent of gross revenues, rising to 5 percent, in increments of 1 percent every 18 months. Following payout of the initial investment, including a fair return on capital invested, the royalty will be 30 percent of net cash flow. The definition of payout will be determined in further consultations with the industry, provincial and territorial governments.

These changes limit the royalty burden during the early stages of production but ensure an equitable sharing between government and industry after the investment has been recovered. The proposed regime is similar to the royalties levied by Alberta on high-cost oil sands and enhanced oil recovery projects.

The Investment Royalty Credit: In addition to changes to the royalty structure, the Government implemented a 25 percent Investment Royalty Credit, which is applicable to eligible frontier exploration well costs equal to, or below, \$5 million for new exploration wells. The credit is applied against royalties otherwise payable within the region. This royalty credit provides conventional onshore frontier exploration with incentives comparable to those available for similar activity in the western provinces.

### 1.3.6 The Exploration Tax Credit

The Western Accord announced the elimination of Petroleum Incentive Payments as of March 31, 1986, with the "grandfathering" of exploration commitments on the frontier until the end of 1987. To help bridge the gap between the expiration of PIP and the commencement of frontier developments, which will create new, commercial incentives for frontier investment, a new tax incentive for exploration was introduced. A 25percent Exploration Tax Credit (ETC) applies to qualifying expenses in excess of \$5 million per well, for wells drilled anywhere in Canada. To ensure that the credit assists investors that are currently non-taxpaying, this provision is to be refundable at a 40percent rate. Furthermore, it applies only to those well expenses that did not attract payments under the Petroleum Incentives Program or under the Alberta Petroleum Incentive Program. Qualifying exploration expenses incurred on or after December 1, 1985 and before January 1, 1991 earn the credit.

### 1.3.7 Canadian Exploration and Development Incentive Program (CEDIP)

On March 27, 1985, the Canadian government announced a new federal incentive program for the oil and gas industry, CEDIP. It is an incentive providing a 33.3percent cash grant for eligible exploration and development expenditures in situations where other incentives do not apply. The maximum eligible for exploration and development is \$10million per company per year, producing a maximum grant of \$3.3million per company per year. This limit must be shared by existing associated and connected companies. Companies eligible to receive CEDIP may issue flow-through shares to pass on tax benefits to individual investors. This incentive is aimed at small and medium-sized companies.

The incentive is available for eligible expenditures incurred as of April 1, 1987. The estimated program cost is \$350million annually. The June 1987 white paper on Tax Reform proposes that CEDIP be phased out over the same period as earned depletion, that is after June 30, 1988.

## 2 OIL

### 2.1 Production, Consumption and Reserves

Average daily conventional crude oil and equivalent production declined during 1981 and 1982. This was mainly due to decreased demand resulting from increased conservation and the economic recession. The recovery, which began in the latter part of 1983 and continued through 1986, led to increased oil demand in two areas: domestic needs and exports to the US. Until 1982, Canada was a net importer of crude oil. However, after 1982 Canada exported more than it imported. For more details, see Table 1.

From 1980 to 1982, daily production declined at an average rate of 5.7 percent per year. However, from 1982 to 1985 production rose at an average annual rate of 3.5 percent. Exports of crude oil in 1986 were almost triple the volume of 1980. Imports, on the other hand, were about one-third lower. The export-to-import ratio has changed significantly since 1980. In that year, it was .37 (Canada exported only 37 percent of what was imported); by 1985 the ratio had risen to 1.66 (Canada exported 66 percent more than was imported); and remained stable in 1986, at 1.64. Domestic consumption declined from 1980 to 1982, at an average annual rate of 9.6 percent, but rose in 1986 as the economy expanded, at an average rate of 3.2 percent per year. Year-end reserves averaged 1036 million cubic metres over the 1980 to 1984 period.

TABLE I  
CRUDE OIL AND EQUIVALENT SUPPLY AND DEMAND IN CANADA

Year	Indigenous Supply	Imports	Exports	Total Demand	Reserves	Exports/ Imports
	(000 m <sup>3</sup> /day)				(million m <sup>3</sup> )	
1980	244.6	88.1	32.7	331.2	951	.37
1981	220.1	80.9	25.7	303.1	1063	.32
1982	217.5	53.9	34.0	270.8	1021	.63
1983	230.0	39.9	45.8	271.4	1023	1.15
1984	243.5	38.9	56.2	281.4	1124	1.44
1985	249.6	45.0*	74.7	293.6	n/a	1.66
1986	249.7	56.4	92.5	307.2	n/a	1.64

\* Swaps not included after June 1985.

Source: Energy, Mines and Resources, Energy Statistics Handbook.

## 2.2 Prices for Refined Petroleum Products

Table 2 is a comparison of regional prices of various selected refined petroleum products. The lowest prices are found in the prairie provinces, while prices close to the national average are in Ontario.

TABLE 2  
REPRESENTATIVE RETAIL PRICES FOR  
SELECTED REFINED PETROLEUM PRODUCTS, 1986 AVERAGE

	<u>Regular Leaded</u>	<u>Gasoline Regular Unleaded</u>	<u>Premium Unleaded</u>	<u>Automotive Diesel Fuel</u>	<u>Heating Oil Domestic</u>
Newfoundland	54.8	57.7	58.6	61.8	35.0
Prince Edward Island	51.4	53.6	54.7	58.8	33.1
Nova Scotia	50.1	51.9	52.9	52.6	31.5
New Brunswick	50.2	52.9	54.2	53.7	34.3
Quebec	50.8	54.6	56.0	50.1	28.7
Ontario	42.3	45.5	46.5	47.1	32.0
Manitoba	47.7	48.9	50.0	46.1	34.8
Saskatchewan	35.8	38.0	39.3	40.8	30.1
Alberta	38.3	40.4	41.6	35.5	n/a
British Columbia	44.8	47.2	48.5	44.6	31.6
Canada	44.8	47.7	48.9	46.1	30.9
\$ per US gallon	169.7	180.7	185.2	174.6	117.0

Source: Energy, Mines and Resources, Energy Statistics Handbook.

### 2.3 International Comparisons

In a price comparison of selected petroleum products for May 1986 in Canada, the US, UK, France, Italy and West Germany, Canadian prices for regular leaded gasoline were the second lowest, at 42.7¢ per litre compared to a high of 106.5¢ in Italy and a low of 31.1¢ in the US. Domestic heating oil prices in Canada also were second lowest, at 30.5¢ per litre, compared to 57.0¢ in France (January 1986) and 30.2¢ in the US.

TABLE 3  
PRICES IN VARIOUS COUNTRIES FOR SELECTED  
REFINED PETROLEUM PRODUCTS, MAY 1986

	Regular Leaded Gasoline		Domestic Heating Oil	
	£ litre	¢/US gallon	£ litre	¢/US gallon
Canada	42.7	161.7	30.5	115.5
United States	31.1	117.8	30.2	114.4
United Kingdom	79.2	300.0	35.9*	136.0
France	97.0*	367.4	57.0**	215.9
Italy	106.5	403.4	48.5	183.7
West Germany	75.6	286.3	38.9	147.3

\* March 1987

\*\* January 1987

Source: Energy, Mines and Resources, Energy Statistics Handbook.

### 3 ELECTRICITY

#### 3.1 Production, Consumption and Capacity

Canada is a major producer and exporter of electric energy to the US. The installed capacity for producing electricity, (see Table 4) increased from 81.6 gigawatts (GW) in 1980 to an estimated 99.2 GW in 1986, at an annual rate of 3.3 percent. During the same period, actual power generation rose at an annual average rate of 3.7 percent. Exports increased at an annual average rate of 7.3 percent from 1980 to 1985, but decreased by 9.5 percent in 1986. Domestic consumption has been growing by 3.7 percent.

Water power was and still is the traditional source of electrical power generation in Canada. In 1986, some 67 percent of total Canadian electricity came from hydroelectric plants, mainly in Quebec and Ontario and, to a lesser extent, in Manitoba and British Columbia. About 18 percent came from conventional thermal plants, fueled by coal, oil and natural gas. These power plants are situated mainly in the Maritimes, the prairies and British Columbia. The remaining 15 percent was produced in nuclear power plants, all of which use the Canadian-designed Candu reactor.



TABLE 4  
ELECTRIC POWER GENERATION AND CONSUMPTION IN CANADA

	<u>Generation</u>	<u>Domestic Consumption</u> (Terawatt Hours)	<u>Exports</u>	<u>Installed Capacity</u> (Gigawatts)
1980	366.7	339.4	30.2	81.6
1981	378.5	344.7	35.4	83.3
1982	376.5	345.1	34.2	84.8
1983	395.5	359.8	38.4	89.5
1984	424.9	385.8	41.4	95.5
1985	446.4	406.1	43.0	97.4*
1986	455.8	421.8	38.9	99.2*

\* - estimated

Source: Energy, Mines and Resources, Energy Statistics Handbook.

The trend towards the development of thermal power stations which began in the 1950s will continue for some time. Recent advances in extra-high voltage transmission techniques permit the development of hydroelectric sites previously considered too remote. Such advances are not likely to bring about a significant increase in this source of electrical power generation in Canada.

### 3.2 Supply of Electricity

Electric energy is supplied by three sources in Canada. Investor-owned and public utilities are the primary sources, with a small number of industrially-owned generation facilities. The latter generate energy mainly for their own use, but a few sell their surplus energy to municipal distribution systems or utilities. Public and investor-owned utilities supply about 90 percent of Canada's electricity.

Industrial establishments supply, on average, 80 percent of their own total requirements. About 54 percent of these plants are in the forest products industry, 15 percent in mining and 11 percent in metal processing. Approximately 80 percent of the industrial establishments with generation facilities are in Quebec, Ontario and British Columbia. This reflects the concentration of forest products, mining and aluminum smelting companies in these provinces. Nearly 90 percent of the electricity generated by industrial establishments is hydroelectric.

Greater public ownership of electric utilities has been the trend in Canada, as provincial governments have taken over most investor-owned electric utilities. Consolidation of the sources of supply contributes to efficiency, and the provincial guarantee of debt lowers the costs of financing. This results in lower electricity supply costs. The major electric utilities in each province and territory are publicly owned, except in Prince Edward Island and Alberta. An investor-owned utility supplies most of the electricity in Newfoundland.

In Alberta, two investor-owned utilities provide approximately 80percent of the provincial supply; municipally-owned utilities supply most of the remainder. The Alberta Electricity Marketing Board will introduce price uniformity for consumers served by the different utilities. The board, which began operating in September 1982, will reduce price differences by averaging generation and transmission costs. Price differentials due to distribution cost differences will remain.

One investor-owned utility distributes 86percent of the electricity used in Newfoundland, including about 90percent of electricity used for residential purposes. It purchases about 85percent of this electricity from the publicly-owned Newfoundland Hydro.

In the Yukon and Northwest Territories, the federally-owned Northern Canada Power Commission generates and distributes most of the electricity supplied. Two investor-owned utilities supply most of the remainder.

In all provinces but one, most of the electricity is distributed to consumers by the major utilities. The exception is Ontario, where a large proportion is purchased from Ontario Hydro and distributed by some 320 municipal utilities.

Hydro-Quebec, Ontario Hydro and British Columbia Hydro are the three largest electric utilities in Canada. In 1981, Hydro-Quebec and Ontario Hydro ranked second and fifth respectively in terms of net income among North American utilities. Together, these two utilities account for approximately 65percent of the total assets and revenues of the Canadian electric utilities.

### 3.3 Comparative Domestic Electricity Costs

Comparative prices for commercial and industrial users of electricity are shown for 1986 in Table 5. Costs are lowest in Manitoba and highest in Prince Edward Island, where there are no hydroelectric plants. Abundant supplies of coal in Alberta and British Columbia and low-priced natural gas in Alberta keep prices down. Inexpensive hydroelectric power in Ontario and Quebec helps offset the more expensive nuclear-generated power, resulting in relatively cheap power in those provinces. It should be noted that large industrial consumers of electricity may negotiate individual rate agreements in many provinces.

TABLE 5  
COMPARATIVE AVERAGE DOMESTIC PRICES FOR ELECTRICITY IN 1986<sup>1</sup>

	COMMERCIAL 1,000 KW Demand 500,000 KWH Consumption (¢/KWH)	INDUSTRIAL 5,000 KW Demand 3.1 MWH Consumption
Newfoundland	5.98	5.66
Prince Edward Island	8.48	7.58
Nova Scotia	6.69	4.68
New Brunswick	6.47	4.24
Quebec	4.17	3.08
Ontario	4.41	4.13
Manitoba	3.09	2.52
Saskatchewan	5.32	4.80
Alberta	3.81	3.17
British Columbia	4.00	3.15
Canada average	4.42	3.65

<sup>1</sup> Electricity costs for commercial and industrial accounts are based on a dual meter system. One meter registers the peak load of electricity used during the period (billing demand) and the second meter registers actual consumption during the period.

Source: Energy, Mines and Resources, Energy Statistics Handbook.

Table 6 shows typical monthly electricity costs for residential, commercial and industrial users in 14 Canadian cities.

### 3.4 International Comparisons

Canada is an inexpensive source of electrical energy. Comparisons among fourteen cities in Canada, the US, Europe and Japan, compiled by the Montreal Urban Community, are shown in Table 7. Canada's three largest urban centres are the lowest in comparative industrial electricity costs, with Paris, the next in rank, some 46 percent above Toronto, the highest shown Canadian centre. Costs in Chicago were more than double those in Toronto, while those in New York and Tokyo were 3.2 and 3.7 times higher respectively.

TABLE 6  
TYPICAL MONTHLY ELECTRICITY COSTS<sup>(1)</sup>  
FOR SELECTED CANADIAN CITIES, JANUARY 1, 1986

<u>Sector</u>	<u>Residential</u>	<u>Commercial<sup>1</sup></u>	<u>Industrial<sup>1</sup></u>
Billing demand (KW)	-	100	1,000
Consumption (KWH)	1,000	25,000	400,000
Vancouver	52.38	1,308.05	15,766.15
Calgary	51.23	1,469.26	16,963.00
Edmonton	51.50	1,563.60	19,980.84
Regina	47.26	1,497.20	19,009.70
Winnipeg	38.35	1,013.60	11,505.19
Toronto	52.89	1,626.50	19,730.00
Ottawa	46.89	1,223.78	17,393.78
Montreal	40.04	1,367.80	15,166.00
Moncton	64.50	2,006.30	20,450.00
Halifax	65.72	2,047.21	21,134.61
Charlottetown	117.88	3,365.81	48,385.70
St. John's	70.01	1,769.98	22,101.29
Whitehorse	69.30	2,205.00	n/a
Yellowknife	90.79	2,669.00	n/a

n/a not applicable

Source: Statistics Canada, Electricity Bills, (Cat. #57-203).

<sup>1</sup> Electricity costs for commercial and industrial accounts are based on a dual meter system. One meter registers the peak load of electricity used during the period (billing demand) and the second meter registers actual consumption during the period.

#### 4 NATURAL GAS

Natural gas has only been produced for interprovincial shipment for about the last two decades, but it quickly became an important component of Canada's energy supply, presently accounting for over 20 percent of the total. Natural gas pricing was deregulated by the Canadian government on November 1, 1986.

TABLE 7  
COMPARATIVE INDUSTRIAL ELECTRICITY COSTS, 1986<sup>1</sup>

(Montreal = 100)

<u>City</u>	<u>Ratio</u>
Vancouver	94
Montreal	100
Toronto	116
Paris	169
Atlanta	173
Boston	190
Dallas	211
Chicago	245
Dusseldorf	272
London	293
Los Angeles	308
Milan	345
New York	376
Tokyo	428

<sup>1</sup> Based on service of 200,000 kwh/month, at 600V and 500 kw utilization.

Source: Montreal Urban Community Office of Economic Expansion,  
Décision: Montréal.

Most of Canada's natural gas contains appreciable quantities of other hydrocarbons such as propane, ethane, butane and pentanes plus "natural gasoline". As a result, a large gas processing industry has developed in Canada. The expansion of natural gas pipeline systems has been extremely rapid, with the mileage of gathering and transmission lines tripling in a decade. The longest gas transmission line stretches from the Alberta-Saskatchewan border to Montreal.

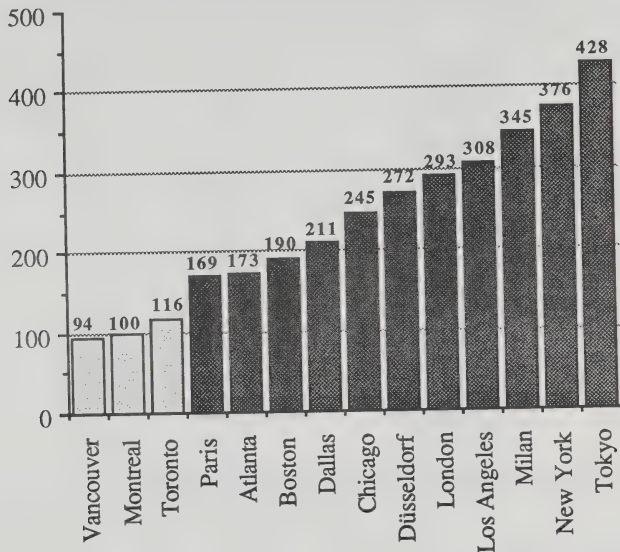
Alberta produces about 88 percent of the country's natural gas output, British Columbia about eight percent, Saskatchewan about three percent and Ontario about one percent. Small quantities for local use are produced in New Brunswick, Quebec and the Northwest Territories.

#### 4.1 Production, Consumption and Reserves

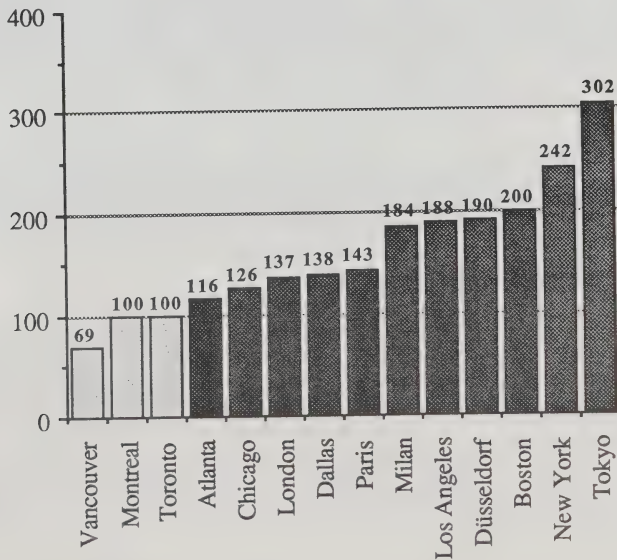
Annual production of natural gas was relatively stable from 1980 to 1982, averaging 77 billion cubic metres per year. In 1983, output dropped to 72.5 billion cubic metres, but it rose in 1984 and 1985 to 87.0 billion cubic metres, before falling back to 82.6 billion cubic metres in 1986. Domestic consumption was stable between 1981 and 1983, averaging about 53.4 billion cubic metres. In 1984 and 1985, domestic sales rose to 62.1 billion cubic metres before declining to 60.6 billion cubic metres in 1986. Exports were stable from 1980 to 1984, averaging 21.6 billion cubic metres, rising by an estimated 22.4 percent to 26.2 billion cubic metres in 1985, but falling back to 20.8 billion cubic metres in 1986.



## COMPARATIVE INDUSTRIAL ELECTRICITY COSTS: 1986



## COMPARATIVE INDUSTRIAL NATURAL GAS COSTS: 1986



Source: Montreal Urban Community, Department of Economic Expansion, Decision Montreal.



Reserves rose at an annual average rate of three percent, from 2.5 trillion cubic metres in 1980 to 2.8 trillion cubic metres in 1984.

TABLE 8  
NATURAL GAS PRODUCTION AND CONSUMPTION IN CANADA (billion m<sup>3</sup>)

	<u>Annual Production</u>	<u>Domestic Consumption</u>	<u>Exports less Imports</u>	<u>Year-end Reserves</u>
1980	78.5	55.9	22.6	2492
1981	75.5	53.4	21.6	2563
1982	77.1	53.7	22.2	2591
1983	72.5	53.2	20.2	2613
1984	79.4	57.7	21.4	2809
1985	87.0	62.1	26.2	n/a
1986	82.6	60.6	20.8	n/a

Source: Energy, Mines and Resources, Energy Statistics Handbook.

#### 4.2 Comparative Domestic Costs

Table 9 illustrates costs for commercial and industrial natural gas users for selected provinces. The price in Alberta, the largest producer, is significantly lower, at \$1.05 and \$0.78 for commercial and industrial use respectively. The price rises with distance - a result of higher transmission costs.

TABLE 9  
COMPARATIVE DOMESTIC COSTS FOR NATURAL GAS, 1986

	<u>Commercial</u>		<u>Industrial</u>	
	\$ per 10 m <sup>3</sup>	\$ per 1000 ft <sup>3</sup>	\$ per 10 ft <sup>3</sup>	\$ per 1000 ft <sup>3</sup>
New Brunswick	5.23	14.80	n/a	n/a
Quebec	2.15	6.08	1.73	4.90
Ontario	1.82	5.15	1.53	4.33
Manitoba	1.58	4.47	1.28	3.62
Saskatchewan	1.26	3.57	1.15	3.25
Alberta	1.05	2.97	0.78	2.21
British Columbia	1.69	4.78	1.21	3.42
Canada	1.61	4.56	1.23	3.48

Source: Energy, Mines and Resources, Energy Statistics Handbook.

4.3 International Comparisons

As with electricity costs, Canadian locations offer significant savings to users of natural gas, ranging from over 67percent over Tokyo, to 14percent over Atlanta. Table 10 compares natural gas costs in 14 cities in seven countries.

TABLE 10  
COMPARATIVE INDUSTRIAL NATURAL GAS COSTS, 1986<sup>1</sup>  
(Montreal = 100)

<u>City</u>	<u>Ratio</u>
Vancouver	69
Montreal	100
Toronto	100
Atlanta	116
Chicago	126
London	137
Dallas	138
Paris	143
Milan	184
Los Angeles	188
Dusseldorf	190
Boston	200
New York	242
Tokyo	302

<sup>1</sup> At a consumption rate of 425,000m<sup>3</sup>/month

Source: Montreal Urban Community, Office of Economic Development,  
Décision: Montréal

5 COAL

Coal is used in Canada primarily by utilities (over 95percent) to generate electric power. For residential and commercial heating, it has largely been replaced by natural gas, oil and electricity.

Canada's vast coal reserves are located primarily in British Columbia, Alberta, Saskatchewan, New Brunswick and Nova Scotia. High-quality coal which can be used to produce coke for the manufacture of steel is found in abundance in Alberta and British Columbia. Canada's coal exports to Japan are significant. A special port facility is in place at Robert's Bank, outside Vancouver, to handle the special unit trains which quickly load and unload the coal. The British Columbia port of Prince Rupert also ships significant amounts of coal to Japan.

5.1 Production and Consumption

The value of coal production in Canada doubled from 1980 to 1985, from \$942 million to over \$1.9 billion, but declined in 1986 to \$1.8 billion. Total production tonnage of all types of coal rose from 1980 to 1985 by 66 percent, at an annual average rate of 10.7 percent, before falling by 6.3 percent in 1986. The production of bituminous coal, which accounts for about 54 percent of the total, increased at an annual average rate of 11.2 percent from 1980 to 1985, before falling by 11 percent. Subbituminous coal production, which makes up some 32 percent of the total, grew consistently over the entire period at an average rate of 9.6 percent. Lignite accounts for the remainder. Bituminous is used in the manufacture of steel and for power generation, while subbituminous and lignite are used only for heating.

TABLE 11  
PRODUCTION OF COAL IN CANADA, BY TYPE

<u>Period</u>	<u>Bituminous</u>	<u>Production (ktonnes)<sup>1</sup></u>			<u>Total Value</u> <u>(\$ millions)</u>
		<u>Subbituminous</u>	<u>Lignite</u>	<u>Total</u>	
1980	20,151	10,542	5,971	36,664	942
1981	21,739	11,551	6,798	40,088	1,118
1982	22,296	13,021	7,494	42,811	1,352
1983	22,556	14,464	7,760	44,780	1,339
1984	32,062	15,422	9,918	57,402	1,806
1985	34,311	16,871	9,672	60,854	1,906
1986	30,541	18,225	8,281	57,047	1,802

<sup>1</sup> 1 kilotonne = 1,100 tons

Source: Energy, Mines and Resources, Energy Statistics Handbook.

Domestic coal is consumed primarily for power generation. Table 12 illustrates domestic coal consumption by end use. In addition, coal was exported to Japan, South Korea and other countries. Imported coal is used for the manufacture of steel in central and eastern Canada.

Consumption by province is shown in Table 13. While Ontario and Alberta are the largest users in Canada, Ontario's share declined, from 48 percent in 1980, to 36 percent in 1986, while Alberta's rose during the same period from 28 percent to 40 percent. Alberta uses coal almost exclusively for thermal power generation. Ontario's uses include thermal power, steel production and other general industry uses.

TABLE 12  
DOMESTIC COAL CONSUMPTION BY TYPE OF USER

Period	Utilities	%	Consumption by		Other	%	Total
			Steel Plants	%			
1980	27,782	74.4	7,241	19.4	2,310	6.2	37,333
1981	29,813	77.7	6,377	16.6	2,177	5.7	38,367
1982	33,655	81.1	5,576	13.5	2,246	5.4	41,477
1983	36,216	83.0	5,583	12.8	1,850	4.2	43,649
1984	40,208	82.6	6,542	13.4	1,949	4.0	48,699
1985	40,395	83.0	6,271	12.9	2,000	4.1	48,666
1986	36,392	81.7	6,134	13.8	2,006	4.5	44,532

1 1 kilotonne = 1,100 tons

Source: Energy, Mines and Resources, Energy Statistics Handbook.

TABLE 13  
DOMESTIC COAL CONSUMPTION BY PROVINCE(ktonnes)<sup>1</sup>

	1980	1981	1982	1983	1984	1985	1986
Newfoundland	15	11	18	n/a	n/a	n/a	n/a
Nova Scotia	2,100	1,977	1,872	1,751	2,169	2,291	2,408
New Brunswick	362	549	578	577	610	531	470
Quebec	595	498	452	411	479	638	642
Ontario	17,756	17,695	18,446	19,180	20,720	18,089	15,868
Manitoba	555	591	429	301	373	430	296
Saskatchewan	5,248	5,293	6,259	6,881	8,160	8,479	6,977
Alberta	10,518	11,518	13,352	14,492	16,123	18,112	17,719
British Columbia	177	236	71	55	65	72	152
Canada	37,333	38,367	41,477	43,649	48,699	48,666	44,532

1 1 kilotonne = 1,100 tons

n/a not available

Source: Energy, Mines and Resources, Energy Statistics Handbook.







## TRANSPORTATION

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## TRANSPORTATION

Canada's transportation needs are satisfied by an excellent network of airports, railway lines, seaports and paved highways. Every region in Canada is served by this still-expanding system, which compares favourably with any in the world. Competition within the industry is intense and customers have a wide range of options.

### Deregulation

As part of the new co-operative spirit existing between government and business, certain industries have been marked for deregulation.

In the summer of 1985 the Minister of Transportation released a position paper entitled Freedom to Move. This paper provided a series of proposals concerning modification of the National Transportation Act. After extensive consultations with the public, provincial and territorial governments, the Minister of Transport introduced a new National Transportation Act in Parliament on June 26, 1986. The bill was retabled, with minor technical alterations, in the House of Commons on November 4, 1987. Second reading took place from January 19th through February 4, 1987, at which time the bill was referred to standing committee. A separate set of initiatives to improve safety and security in the transportation industry is now under way.

The government, through the changes in the act, intends to encourage economic growth and development in Canada by:

- placing greater reliance on price competition among transportation suppliers;
- reducing economic regulation and providing a greater role for market process;
- promoting consumer protection and better services to users.

Deregulation has already occurred, to some extent, in the oil and gas industry, in the trucking industry, in passenger air service, and in the field of telecommunications (consumers are able to purchase telephone equipment from companies other than Bell Canada). There is also much discussion about privatizing certain crown corporations or certain components of crown corporations. Northern Transportation Company Limited, a crown-owned marine transportation company operating in northern Canada and the Arctic, was sold to private interests in the summer of 1985. Nordair was sold to the private sector in October, 1984.

### 1      AIR

There are 151 airports in Canada owned by Transport Canada. These are listed in Appendix I. Ten of these are international airports, located at Calgary, Edmonton, Gander, Halifax, Mirabel, Montreal, Ottawa, Toronto, Vancouver and Victoria.

Scheduled air services are offered by three national airlines: Air Canada, Canadian Airlines International and Wardair. These are supplemented by several large regional carriers, including Nordair, Quebecair, and Northwest Airlines, as well as several hundred limited destination and charter carriers, mostly operating between fewer than five regular destinations. Regular international service is offered by Air Canada, Canadian Airlines International, Nordair and Wardair, plus a few other smaller carriers.

Air travel times between major Canadian centres are shown in Table 1. The scheduled time to traverse Canada from east to west (or vice versa) is eight hours, twelve minutes, including one obligatory stop-over. Toronto, on the other hand, is only one hour from Montreal and four hours from Edmonton.

Airline deregulation has resulted in savings to both passengers and shippers.

TABLE 1  
AIR TRAVEL TIMES

	<u>Halifax</u>	<u>Montreal</u>	<u>Toronto</u>	<u>Winnipeg</u>	<u>Edmonton</u>
		(hours/minutes)			
Montreal	1 35				
Toronto	2 19	1 08			
Winnipeg	5 43*	2 55	2 33		
Edmonton	7 10*	5 00*	4 00	2 02	
Vancouver	8 12*	5 20	4 55	3 00	1 23

\* Includes one enroute or connection stop.

Source: Air Canada.

## 2 RAILROADS

Historically, railroads have played a central role in the development of Canada. In 1984, there were some 95,000 km (59,000 miles) of track. Two transcontinental railroads, the Canadian National and Canadian Pacific, serve the country from coast to coast, supplemented by a number of smaller regional railroads.

Intercity railroad passenger services are provided by VIA Rail, which is operated nationally, and a number of provincially-operated concerns. The western and prairie portions of the system are presently being twinned, that is, new track is being laid beside existing track to allow trains to move in both directions simultaneously. On a single track, trains must sit on sidings waiting for others to pass. Track twinning will eliminate this lost time and result in quicker service and increased flowthrough of product.

Distances between selected points are shown in Tables 2 and 2A.

TABLE 2  
SELECTED CITY-TO-CITY DISTANCES BY RAIL (km)

	<u>Halifax</u>	<u>Montreal</u>	<u>Ottawa</u>	<u>Toronto</u>	<u>Winnipeg</u>	<u>Vancouver</u>
Halifax		1,352	1,539	1,891	3,880	6,251
Quebec City	1,101	251	438	790	2,779	5,150
Montreal	1,352		187	539	2,528	4,899
Ottawa	1,539	187		446	2,341	4,712
Toronto	1,891	539	446		1,989	4,360
Niagara Falls	2,023	691	578	132	2,121	4,492
Sarnia	2,171	819	726	280	2,269	4,640
Windsor	2,250	898	805	359	2,348	4,719
Winnipeg	3,880	2,528	2,341	1,989		2,371
Regina	4,454	3,102	2,915	2,563	574	1,797
Calgary	5,220	3,868	3,681	3,329	1,340	1,031
Vancouver	6,251	4,899	4,712	4,360	2,371	

TABLE 2A  
SELECTED CITY-TO-CITY DISTANCES BY RAIL (miles)

	<u>Halifax</u>	<u>Montreal</u>	<u>Ottawa</u>	<u>Toronto</u>	<u>Winnipeg</u>	<u>Vancouver</u>
Halifax		840	956	1,175	2,411	3,885
Quebec City	684	156	272	491	1,727	3,201
Montreal	840		116	335	1,571	3,045
Ottawa	956	116		277	1,455	2,929
Toronto	1,175	335	277		1,236	2,710
Niagara Falls	1,257	429	359	82	1,318	2,792
Sarnia	1,349	509	451	174	1,410	2,884
Windsor	1,398	558	500	223	1,459	2,933
Winnipeg	2,411	1,571	1,455	1,236		1,474
Regina	2,768	1,928	1,812	1,593	357	1,117
Calgary	3,244	2,404	2,288	2,069	833	641
Vancouver	3,885	3,045	2,929	2,710	1,474	

In 1985, a total of 237 million metric tonnes (261 million tons) were shipped by rail in Canada, down 6.9 percent from 1984. Table 3 below lists freight loadings by province in 1985.

Deregulation of railroad freight rates has not yet occurred in Canada, but recommendations put forward to the Minister of Transport are currently under consideration.

TABLE 3  
RAILWAY FREIGHT LOADINGS BY PROVINCE, 1985

<u>Province</u>	<u>million tonnes loaded<sup>1</sup></u>	<u>% of total</u>
Newfoundland	19.9	8.4
Prince Edward Island	0.1	0.1
Nova Scotia	11.6	4.9
New Brunswick	3.7	1.6
Quebec	38.1	16.1
Ontario	40.4	17.1
Manitoba	9.0	3.8
Saskatchewan	26.0	11.0
Alberta	33.9	14.3
British Columbia	54.0	22.8
Yukon and NWT	0.3	0.1
TOTAL	237.1	100.0

<sup>1</sup> 1 tonne = 1.1 tons; Figure includes both carload and non-carload traffic.

Source: Statistics Canada, Railway Transport in Canada (Cat. #52-211).

### 3 MARINE

Canada is bounded by the Pacific Ocean on the west, the Atlantic Ocean on the east, and the Arctic Ocean and Hudson Bay on the north. The Great Lakes and St. Lawrence Seaway system serve as a gateway to and from the interior.

Canada has 24 deepwater ports and some 650 smaller ports and government wharves. The 15 ports and nine harbours are administered by Ports Canada or specific harbour commissions listed in Appendix II; the 650 smaller facilities are under the Canadian Marine Transportation Administration. The Department of Fisheries and Oceans administers another 2,000 fishing harbours and recreational facilities.

The St. Lawrence Seaway is administered by the St. Lawrence Seaway Authority. Extending from Lake Superior, through the Great Lakes via a system of canals and locks, the Seaway runs along the St. Lawrence River to the Atlantic Ocean. A description of the Seaway is provided in Appendix III, along with Seaway tolls<sup>1</sup>. In 1986, the Welland Canal section of the Seaway handled over 41.6 million tonnes (45.8 million tons) of cargo, while the Montreal-Lake Ontario section conveyed 37.6 million tonnes (41.4 million tons).

<sup>1</sup> Requests for information on Seaway tolls, operations and requirements should be addressed to the Information Office, The St. Lawrence Seaway Authority, 360 Albert Street, Ottawa, Canada, K1R 7X7. Telex: 053-3322. Telephones: (416) 598-4614.



TABLE 4  
MAJOR LOADINGS AND UNLOADINGS OF INTERNATIONAL FREIGHT  
AT CANADIAN PORTS, BY DESTINATION AND COUNTRY OF ORIGIN, 1985

<u>Destination</u>	<u>000 tonnes<sup>1</sup></u>	<u>% of total</u>
<b>A. <u>LOADINGS</u></b>		
Algeria	1,100	0.8
Australia	1,334	0.9
Belgium-Luxembourg	3,954	2.8
Brazil	2,926	2.0
Cuba	1,267	0.9
France	3,515	2.5
Federal Republic of Germany	3,291	2.3
India	1,365	1.0
Italy	2,821	2.0
Japan	33,795	23.6
South Korea	5,280	3.7
Netherlands	8,493	5.9
Peoples Republic of China	3,965	2.8
Taiwan	1,448	1.0
United Kingdom	8,993	6.3
United States of America	35,526	24.8
Union of Soviet Socialist Republics	5,748	4.0
Other	18,600	13.0
<b>TOTAL</b>	<b>143,421</b>	<b>100.0</b>
<b>B. <u>UNLOADINGS</u></b>		
Algeria	1,000	1.7
Australia	831	1.4
Belgium-Luxembourg	1,999	3.3
Brazil	2,400	4.0
Federal Republic of Germany (West)	975	1.6
Italy	809	1.3
Japan	1,300	2.1
Mexico	1,171	1.9
Netherlands	612	1.0
Nigeria	890	1.5
United Kingdom	4,920	8.1
United States of America	34,013	56.1
Venezuela	2,991	4.9
Other	6,757	11.1
<b>TOTAL</b>	<b>60,668</b>	<b>100.0</b>

<sup>1</sup> 1,000 tonnes = 1,100 tons

Source: Statistics Canada, International Seaborne Shipping Port Statistics, 1984  
(Cat. #54-209).

The Directory of Ocean Shipping Services, published by DRIE, lists shipping companies serving Canada, the types of services they provide and destinations. It is available at no charge from the Department of Regional Industrial Expansion, Business Centre, 235 Queen Street, Ottawa, Ontario, K1A 0H5.

During 1985, a total of 204.1 million tonnes (224 tons) of merchandise of international origin was loaded and unloaded at Canadian ports. Loadings totalled 143.4 million tonnes (157.8 million tons), while unloadings amounted to 60.7 million tonnes (66.7 million tons).

Domestic shipping (that is, freight originating from and destined to Canadian ports) amounted to 123.4 million tonnes (135.8 million tons) in 1985, down 10.2 percent from 1984. Port activity by province is shown in Table 5.

TABLE 5  
LOADINGS AND UNLOADINGS OF  
DOMESTIC MARINE FREIGHT BY PROVINCE, 1985

<u>Province</u>	<u>ktonnes<sup>1</sup> loaded and unloaded</u>	<u>% of total</u>
Newfoundland	2,595	2.1
Prince Edward Island	598	0.5
Nova Scotia	6,305	5.1
New Brunswick	1,985	1.6
Quebec	32,009	25.9
Ontario	37,458	30.2
Manitoba	21	0.0
British Columbia	42,274	34.3
Northwest Territories	188	0.2
TOTAL	123,434	100.0

1 1,000 tonnes = 1100 tons

Source: Statistics Canada, Coastwise Shipping Statistics, 1985 (Cat. #54-210)

4 CONTAINERS

Montreal, Vancouver, Halifax and Saint John are the prime container ports in Canada. Lesser numbers of containers are handled at Toronto, Hamilton, Quebec City, Trois-Rivières and St. John's. Although almost any Transport Canada port has the ability to ship containers, those listed above conduct almost all the marine container traffic in Canada.

5 HIGHWAYS

The Canadian system of roads and highways is one of the best in the world, linking Canadian centers, and joining in an extensive north-south system serving all of North America. The total of intercity paved roads is 271,417 km (168,687 miles), including federal and provincial roads. About 28 percent of this total represent two- or four-lane limited-access highways designed to move large volumes of traffic at highway speed. Not included in these totals are non-highway roads within municipalities.

There were 14.8 million motor vehicles registered in Canada in 1985. A breakdown by type is shown in Table 6.

TABLE 6  
ROAD MOTOR VEHICLE REGISTRATIONS, 1985

<u>Type</u>	<u>Number</u>	<u>Percentage</u>
Passenger Automobiles	11,118	75.0
Trucks and Buses	3,149	21.3
Motorcycles	488	3.3
Other	64	0.4
TOTAL	14,819	100.0

Source: Statistics Canada, Road Motor Vehicles, 1985 (Cat.#53-219).

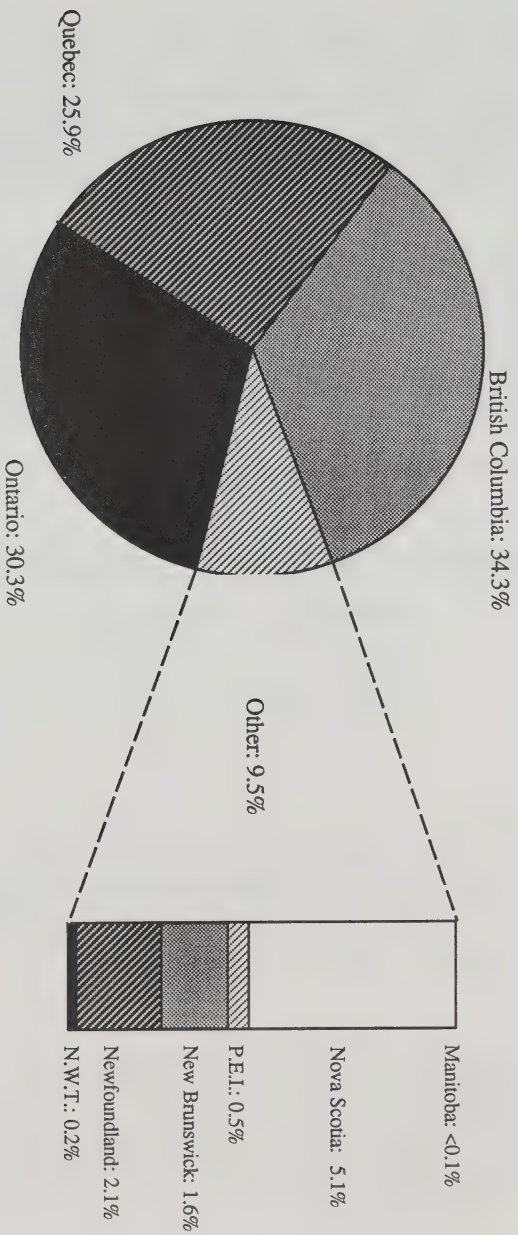
In 1984, some 5,221 for-hire trucking establishments providing freight hauling and household moving services by truck reported total operating revenues of \$7.1 billion. Total pieces of equipment on the road numbered 144,762. Total weight transported amounted to 162.0 million tonnes (178.2 million tons).

6 PIPELINES

Canada has major oil and natural gas pipeline systems which transport products from the fields in Alberta, Saskatchewan, British Columbia and the Northwest Territories. Oil is distributed to British Columbia and the Pacific coast via the Trans-Mountain Pipeline, and from Alberta to the east as far as Montreal in Canada and Portland, Maine, in the US via the Interprovincial Pipeline. Natural gas is distributed from Alberta west via the Westcoast Transmission Pipeline and east to Quebec City, through the Trans-Canada Pipeline.

# DOMESTIC MARINE FREIGHT HANDLED BY PROVINCE: 1985

(Total 1985: 123.4 million tonnes)



Oil and gas are exported to the US via pipelines from Alberta, Saskatchewan, Manitoba and Quebec.

Proposed additions to the system would have Alaskan oil transported through the Northwest Territories and Yukon to Edmonton, where it would feed into the interprovincial system. A second oil pipeline proposal would twin the Trans-Mountain line, but would have its terminus in Washington state instead of Vancouver.

Two proposed gas pipelines would route Arctic gas through Edmonton, for export to the US, and across the Northwest Territories, northern Saskatchewan, Manitoba, and Ontario to link with the Trans-Canada line, east of Thunder Bay.

## 7 FREIGHT RATES

Freight rates vary considerably according to destination, weight, type of product, volume and mode of transport. The advice and expertise of a freight forwarder could produce the most efficient and cost-effective solutions to individual transportation problems. Freight forwarders are also able to combine shipments to common destinations, thereby qualifying smaller loads for weight and/or volume discounts otherwise not available. A list of Canadian-based freight forwarders can be found in the Canadian Manufacturers Association's Canadian Trade Index.

### 7.1 Air Cargo

Tables 7, 7A and 7B list standard air cargo shipping rates. Specific commodity rates may differ. Prices will vary according to volume, frequency, destination and the nature of the cargo.

TABLE 7  
TYPICAL AIR CARGO RATES WITHIN CANADA

(Canadian dollars per kilogram)

<u>Origin</u>	<u>Destination</u>	<u>Minimum charge</u>	<u>Less than 45 kg</u>	<u>45-100 kg</u>	<u>More than 500 kg</u>
Vancouver	Winnipeg	23.00	1.62	1.44	1.21
	Toronto	23.00	2.10	1.91	1.70
	Montreal	23.00	2.56	2.07	1.84
	Halifax	23.00	2.56	2.34	2.13
Winnipeg	Vancouver	23.00	1.62	1.44	1.21
	Toronto	23.00	1.50	1.30	1.09
	Montreal	23.00	1.64	1.46	1.23
	Halifax	23.00	1.89	1.69	1.48
Toronto	Vancouver	23.00	2.10	1.91	1.70
	Winnipeg	23.00	1.50	1.30	1.09
	Montreal	23.00	1.16	.97	.73
	Halifax	23.00	1.44	1.23	1.01
Montreal	Vancouver	23.00	2.26	2.07	1.84
	Winnipeg	23.00	1.64	1.46	1.23
	Toronto	23.00	1.16	.97	.73
	Halifax	23.00	1.25	1.03	.81
Halifax	Vancouver	23.00	2.56	2.34	2.13
	Winnipeg	23.00	1.89	1.69	1.48
	Toronto	23.00	1.44	1.23	1.01
	Montreal	23.00	1.25	1.03	.81

Source: Air Canada Cargo.



TABLE 7A  
TYPICAL AIR CARGO RATES, CANADA TO US

(Canadian dollars per kilogram)

<u>Origin</u>	<u>Destination</u>	<u>Minimum charge</u>	<u>Less than 45 kg</u>	<u>45-100 Kg</u>	<u>More than 500 kg</u>
Vancouver	Los Angeles	27.00	1.59	1.35	1.19
	San Francisco	27.00	1.59	1.35	1.19
	Chicago	35.00	2.89	1.86	1.64
	Denver	52.00*	1.51	1.26	1.01
Winnipeg	Los Angeles	32.00	2.12	1.52	1.39
	San Francisco	29.00	1.96	1.47	1.34
	Chicago	29.00	1.52	1.35	1.13
Toronto	New York	23.00	.94	.65	.56
	Boston	25.00	.99	.73	.68
	Chicago	25.00	1.16	.86	.67
	Miami	28.00	1.82	1.21	1.08
Montreal	New York	24.00	.98	.58	.53
	Boston	24.00	.99	.61	.54
	Chicago	25.00	1.43	.95	.88
	Miami	29.00	1.95	1.33	1.22
Halifax	New York	27.00	1.45	1.27	1.14
	Boston	27.00	1.20	.88	n/a
	Chicago	28.00	2.01	1.67	1.47

Source: Air Canada, Canadian Pacific Airlines.

\* Joint rate (no direct flights)

TABLE 7B  
TYPICAL AIR CARGO RATES, SELECTED INTERNATIONAL DESTINATIONS

(Canadian dollars per kilo)					
<u>Origin</u>	<u>Destination</u>	<u>Minimum charge</u>	<u>Less than 45 Kg</u>	<u>45-100 Kg</u>	<u>More than 500 Kg</u>
Vancouver	Tokyo	65.00	8.28	6.30	3.97
	Seoul	65.00	8.93	7.14	4.46
	Hong Kong	65.00	8.98	6.84	3.10
	Shanghai	65.00	8.41	6.31	5.04
	Sydney	65.00	12.17	9.22	7.54
Winnipeg	London	65.00	8.70	7.08	2.64
	Paris	70.00	8.70	7.08	2.64
	Tokyo	65.00	9.90	7.76	5.21
	Seoul	65.00	10.44	8.35	5.22
	Hong Kong	65.00	10.54	8.03	n/a
Toronto	London	65.00	7.92	6.40	2.12
	Paris	70.00	7.92	6.40	2.12
	Hong Kong	65.00	10.58	8.08	n/a
	Jeddah	65.00	11.93	9.07	5.94
	Tokyo	65.00	9.86	7.50	4.73
Montreal	London	65.00	7.80	6.30	2.10
	Paris	70.00	7.80	6.30	2.10
	Amsterdam	65.00	7.80	6.30	2.10
	Singapore	65.00	11.44	8.72	n/a
	Tokyo	65.00	9.86	7.50	4.73
Halifax	London	65.00	7.70	6.25	2.06
	Paris	70.00	7.70	6.25	2.06
	Amsterdam	65.00	7.70	6.25	2.06
	Madrid	65.00	7.70	6.25	2.06
	Copenhagen	65.00	7.82	6.37	2.18

Source: Air Canada Cargo, Canadian Airlines International Cargo.

Distances between major centres by air are shown in Tables 8, 8A and 8B.

TABLE 8  
AIR DISTANCES WITHIN CANADA (AIRPORT-TO-AIRPORT)

<u>Origin</u>	<u>Destination</u>	<u>Kilometers</u>	<u>Miles</u>
Vancouver	Winnipeg	1,862	1,157
	Toronto	3,342	2,077
	Montreal	3,649	2,286
	Halifax	4,425	2,749
Winnipeg	Vancouver	1,862	1,157
	Toronto	1,502	933
	Montreal	1,816	1,128
	Halifax	2,574	1,599
Toronto	Vancouver	3,342	2,077
	Winnipeg	1,502	933
	Montreal	506	315
	Halifax	1,287	799
Montreal	Vancouver	3,649	2,286
	Winnipeg	1,816	1,128
	Toronto	506	315
	Halifax	803	500
Halifax	Vancouver	4,425	2,749
	Winnipeg	2,574	1,599
	Toronto	1,287	799
	Montreal	803	500

Note: Air carriers require a minimum of one day for cargo shipment to the United States. Depending on volume and destination, more time may be involved. Where direct flights (with stopovers) do not service the destination, up to three days may be required. As well as actual air time, extra time required for customs clearance will determine total time for transport.

TABLE 8A  
AIR DISTANCES WITHIN NORTH AMERICA (AIRPORT-TO-AIRPORT)

<u>Origin</u>	<u>Destination</u>	<u>Kilometers</u>	<u>Miles</u>
Vancouver	Los Angeles	1,739	1,080
	San Francisco	1,286	799
	Chicago	2,828	1,757
Winnipeg	San Francisco	2,417	1,502
	New York	2,092	1,299
	Chicago	1,137	707
	Detroit	1,461	907
Toronto	Chicago	7,090	435
	St. Louis	1,050	653
	Houston	2,060	1,280
	New York	589	366
	Miami	1,988	1,235
Montreal	New York	536	333
	Chicago	1,198	745
	Denver	2,606	1,619
	Houston	2,548	1,583
	Miami	2,264	1,406
Halifax	New York	959	597
	Boston	659	409
	Chicago	1,986	1,234
	Miami	2,597	1,614

Note: Air carriers require a minimum of one day for cargo shipment to the United States. Depending on volume and destination, more time may be involved. Where direct flights (with stopovers) do not service the destination, up to three days may be required. As well as actual air time, extra time required for customs clearance will determine total time for transport.

TABLE 8B  
AIR DISTANCES OVERSEAS (AIRPORT-TO-AIRPORT)

<u>Origin</u>	<u>Destination</u>	<u>Miles</u>	<u>Kilometers</u>
Vancouver	Tokyo	4,695	7,556
	Shanghai	5,616	10,389
	Hong Kong	6,366	10,245
	Manila	6,559	10,554
	Jakarta	8,288	13,339
Winnipeg	Tokyo	5,584	8,986
	Singapore	8,679	13,976
	London	3,928	6,321
	Amsterdam	4,035	6,494
	Frankfurt	4,262	6,861
Toronto	Tokyo	6,428	10,345
	Hong Kong	7,788	12,533
	London	3,545	5,704
	Frankfurt	3,939	6,340
	Rome	4,414	7,104
Montreal	Paris	3,430	5,519
	Frankfurt	3,636	5,851
	Buenos Aires	5,624	9,051
	Tokyo	6,437	10,360
	Jakarta	9,712	15,631
Halifax	London	2,848	4,584
	Paris	3,027	4,872
	Frankfurt	3,251	5,233
	Madrid	2,989	4,811
	Rome	3,683	5,926

Note: Air carriers require a minimum of one day for cargo shipment to the US. Depending on volume and destination, more time may be involved. Where direct flights (with stopovers) do not service the destination, up to three days may be required. As well as actual air time, extra time required for customs clearance will determine total time for transport.

7.2 Marine

As in other international ports, the liner market in and out of Canada is dominated by self-regulated conferences which set common rates for all members, rationalizing capacity and controlling competition.

Generally speaking, the liner tariffs published by shipping conferences are both voluminous and complicated. In addition to pages of rules and regulations concerning the application of rates and surcharges, a vast variety of rates are quoted for different commodities. Liner rates on a particular route can be widely different between various types of commodities and services. Rate differentials are due to three main factors: institution, cost and demand.

The difference between contract and non-contract rates arises from certain customers signing a loyalty or patronage contract with the conference and in return obtaining a lower rate. Cost and demand influences depend on the particular commodity. Generally speaking, conference rates still depend on the unit values of commodities.

The liner market's tendency toward fierce competition was once again shown by the rate wars which took place in the early 1980s on such major liner trade routes as the Transpacific, the North Atlantic and the Europe-Far East routes.

7.3 Surface Transport (Rail and Trucking)

Generally speaking, rail provides the cheapest means to transport bulk goods. The specific route and volume of a particular shipment will greatly influence the cost. The type of container (box car, piggy-back or other) will also affect the cost compared to other means (trucking). On busy short-haul routes, such as that between Montreal and Toronto, road may be preferred over rail for reasons of both cost and scheduling.

The following rate examples are based on a shipment of packaged office furniture, transported by container or piggy-back. The size of the truck/container varies according to the particular route, as does the applicable rate (Freight-all-kind or Furniture, office).



TABLE 9  
AVERAGE RAIL SHIPPING COSTS  
FOR PACKAGED FURNITURE CITY-TO-CITY (CANADA, 1986)

<u>Route</u>	<u>Distance</u>	<u>Price per hundredweight</u>	<u>Weight range (pounds)</u>	<u>Dollar cost per km/mile</u>
Halifax-Montréal	1,352 km	\$4.73-\$4.30	24,000-45,000	\$0.84-\$1.43
	840 mi			\$1.35-\$2.30
Montréal-Toronto	539 km	\$6.82-\$4.68	20,000-45,000	\$2.5-\$3.9
	335 mi			\$4.1-\$6.3
Toronto-Winnipeg	1,989 km	\$11.89-\$6.47	15,000-40,000	\$0.9-\$1.3
	1,236 mi			\$1.4-\$2.1
Calgary-Vancouver	1,031 km	\$5.80	24,000	\$1.35
	641 mi			\$2.16
Vancouver-Toronto	4,360 km	\$10.13-\$6.84	24,000-40,000	\$0.60
	2,710 mi			\$0.9-\$1.0

Source: CN Rail.

Trucking freight rates are not regulated in Canada. Instead there is a system of collective regulation. Trucking rates (tariffs) depend upon a host of factors and vary from province to province. Deregulation will affect tariffs unevenly. One-third of all Canadian for-hire trucking companies are located in Ontario, so it will be the province most affected by deregulation. Alberta will be the least affected, since it has few regulations on trucking.

While there are many attractive rates for interprovincial traffic at present, deregulation is expected to reduce the shipping costs for manufacturers. There is expected to be greater change on international routes where the variables which determine tariffs are more complex than on interprovincial ones. The international class rate structure is much higher than the domestic structure. For long-haul routes especially, less-than-truckload (LTL) business will be based more on volume, with discounts for higher levels of traffic.

On international routes, the tariff structure is such that there can be more than one legal rate. These may not reflect the actual obtainable rate. The "paper" rate generally reflects the maximum a carrier will charge. Under normal circumstances, this rate will be reduced through the transport company's discount program on a particular route.

Tariff rates are expressed according to the class and volume of shipment and are usually quoted in terms of dollar cost per hundredweight (\$Cwt). They are set by the regional tariff bureau which has jurisdiction over the area.

In southern Ontario, where much of the Canadian manufacturing industry is located, the tariff rates are set by the Niagara Frontier Tariff bureau. Rates are also set by the Québec Tariff Bureau in Montreal. The Middle Atlantic Tariff Bureau in Washington, DC and the Southern Motor Carriers Conference in Atlanta, Georgia, set rates for traffic from Québec and the Maritimes to the US. Similarly for traffic out of Vancouver and the prairie provinces, rates are set by the Pacific Inland Tariff Bureau in Portland, Oregon and the Rocky Mountain Tariff Bureau in Denver, Colorado. To maximize the benefits of deregulation in the United States, several large shipper agents have emerged, with a noticeable impact on the rate structure. Shipper agents have been able to offer rates as much as 40 percent less than rates quoted by the bureau. There has also been an increase in private trucking to get around the published rates. A firm may use its own trucks to haul cargo to the border to interline with an American carrier. As well, many new carriers do not belong to bureaus and base their rates on cost, while others do so according to what the market may bear. Many such shipper agents-cost carriers use a cost-plus formula. They represent a growing number of firms and are receiving support on international traffic.

The following rate examples are based on a shipment of packaged office furniture, transported by a private transport company. The prices are based on a city-to-city rate, with a full truckload, on an ongoing contract basis (Canadian destinations, truck size 45-48 ft). These are estimates only and prices quoted may be subject to negotiation and discount by individual carriers.

TABLE 10  
AVERAGE TRUCKING COSTS FOR PACKAGED FURNITURE CITY-TO-CITY  
CANADA, 1987)

<u>Route</u>	<u>Distance</u>	<u>Cost of truck</u>	<u>per km/mile</u>
Halifax-Montréal	1,249 km 775 mi	\$1,100	\$0.89/\$1.43
St. John, NB-Montréal	940 km 583 mi	\$1,075	\$1.14/\$1.84
Rivière-du-Loup, Qué.-Montréal	452 km 280 mi	\$700	\$1.56/\$2.50
Quebec City-Montréal	270 km 168 mi	\$400	\$1.48/\$2.38
Montréal-Toronto	539 km 335 mi	\$816	\$1.51/\$2.44
Toronto-Winnipeg	2,099 km 1,303 mi	\$2,346	\$1.12/\$1.80
Calgary-Edmonton	299 km 186 mi	\$446	\$1.49/\$2.40
Regina-Winnipeg	571 km 355 mi	\$500	\$0.88/\$1.41
Calgary-Vancouver	1,057 km 656 mi	\$904	\$0.86/\$1.38
Vancouver-Toronto	4,492 km 2,789 mi	\$3,695	\$0.82/\$1.32
Toronto-Vancouver		\$4,438	\$0.99/\$1.59

Source: Private Carriers (May 1987).

Other key factors affecting rates include:

- the number of shipments per week, and the nature of the contract with a particular freight forwarder or trucking company;
- the cargo type, the load (less than truckload or full truck) and tonnage;
- transport type (container or piggy-back);
- the routing (city-to-city rate or line-haul rate, where several stopovers are involved); and
- the direction of the shipment (demand and supply factors mean carriers will offer large discounts on one direction but not the other).

Rates to the American market may vary by as much as 300 percent, depending on the particular route and volume. Cost estimates for destinations in regional American markets cannot be published at present because of the changing and fiercely competitive nature of the deregulated American industry.

The costs presented in Table 10 are only indications of actual costs and are based on one particular shipment type. Costs are expressed in dollars per kilometer/mile, as well as price per hundredweight and truck cost.

## APPENDIX I

## AIRPORT SITE NAMES AND PROVINCES/TERRITORIES

Abbotsford	BC	Iqaluit	NWT	Sherbrooke	Que.
Alma	Que.	Kamloops	BC	Smithers	BC
Baie-Comeau	Que.	Kapuskasing	Ont.	Springbank	Alta.
Bonnechere	Ont.	Kelowna	BC	St. Andrews	Man.
Boundary Bay	BC	Kenora	Ont.	St. Anthony	Nfld.
Burwash	YT	Kuuujuaq	Que.	St. John's	Nfld.
Calgary	Alta.	La Macaza	Que.	St-Hubert	Que.
Cambridge Bay	NWT	La Ronge	Sask.	St-Jean	Que.
Campbell River	BC	Lac Eon	Que.	St. Leonard	NB
Carp	Ont.	Lethbridge	Alta.	St. Catharines	Ont.
Castlegar	BC	London	Ont.	Stephenville	Nfld.
Charlevoix	Que.	Lourdes-de-Sablon	Que.	Sudbury	Ont.
Charlo	NB	Lynn Lake	Man.	Swift Current	Sask.
Charlottetown	PEI	Lytton	BC	Sydney	NS
Chevery	Que.	Mirabel	Que.	The Pas	Man.
Churchill	Man.	Moncton	NB	Thompson	Man.
Cranbrook	BC	Mont-Joli	Que.	Thunder Bay	Ont.
Dauphin	Man.	Mould Bay	NWT	Timmins	Ont.
Dawson Creek	BC	Muskoka	Ont.	Tofino	BC
Deer Lake	Nfld.	Nanaimo	BC	Toronto	Ont.
Dorval	Que.	Natashquan	Que.	Trois Rivières	Que.
Dryden	Ont.	Norman Wells	NWT	Uranium City	Sask.
Earlton	Ont.	North Battleford	Sask.	Val-d'Or	Que.
Edmonton	Alta.	North Bay	Ont.	Vancouver	BC
Emsdale	Ont.	Olds (Netook)	Alta.	Vanderhoof	BC
Eureka	NWT	Oshawa	Ont.	Victoria	BC
Flin Flon	Nfld.	Ottawa	Ont.	Villeneuve	Alta.
Forestville	Que.	Peace River	Alta.	Wabush	Nfld.
Fort McMurray	Alta.	Penticton	BC	Watson Lake	YT
Fort Resolution	NWT	Pitt Meadows	BC	Whitehorse	YT
Fort Simpson	NWT	Prince George	BC	Wiarton	Ont.
Fort Smith	NWT	Prince Rupert	BC	Windsor	Ont.
Fort St. John	BC	Princeton	BC	Winnipeg	Man.
Fredericton	NB	Quebec	Que.	Woodcock	BC
Gananoque	Ont.	Quesnel	BC	Yahk	BC
Gander	Nfld.	Red Lake	Ont.	Yarmouth	NS
Gaspé	Que.	Regina	Sask.	Yellowknife	NWT
Gillam	Man.	Resolute Bay	NWT	Yorkton	Sask.
Goose Bay	Nfld.	Rimouski	Que.		
Gore Bay-Manitoulin	Ont.	Rivière-du-Loup	Que.		
Grande Prairie	Alta.	Rouyn	Que.		
Halifax	NS	Sachs Harbour	NWT		
Hall Beach	NWT	Saint John	NB		
Hamilton	Ont.	Salmo	BC		
Havre St-Pierre	Que.	Sandspit	BC		
Hay River	NWT	Sarnia	Ont.		
Hope	BC	Saskatoon	Sask.		
Iles-de-la-Madeleine	Que.	Sault Ste. Marie	Ont.		
Innisfail	Alta.	Schefferville	Que.		
Inuvik	NWT	Sept-Iles	Que.		

APPENDIX II

HARBOUR COMMISSIONS PORT MANAGERS

Mr. David S.H. Cree  
General Manager  
Windsor Harbour Commission  
500 Riverside Drive West  
Windsor, Ontario  
N9A 5K6  
(519) 258-5741

Mr. Preston R. Cook  
Port Manager  
Thunder Bay Harbour Commission  
PO Box 2266  
Thunder Bay, Ontario  
P7B 5E8  
(807) 345-6400

Mr. Ian Brown  
General Manager  
Toronto Harbour Commissioners  
60 Harbour Street  
Toronto, Ontario  
M5J 1B7  
(416) 863-2020

Mr. R.R. Hennessy  
Port Director  
Hamilton Harbour Commissioners  
605 James Street North  
Hamilton, Ontario  
L8L 1K1  
(416) 525-4330

Capt. D. Brooks  
Port Manager  
Port Alberni Harbour Commission  
2750 Harbour Road  
PO Box 99  
Port Alberni, BC  
V9Y 7M6  
(604) 723-5312

Mr. Rick Pearce  
Port Manager  
Fraser River Harbour Commission  
Suite 505  
713 Columbia Street  
New Westminster, BC  
V3M 1B2  
(604) 524-6655

Ms. Donna Taylor  
Port Manager  
Oshawa Harbour Commission  
1050 Farewell Street  
Oshawa, Ontario  
L1H 6N6  
(416) 576-0400

Mr. William Mills  
Port Manager  
Nanaimo Harbour Commission  
104 Front Street  
PO Box 131  
Nanaimo, BC  
V9R 5K4  
(604) 753-4146

Mr. George W. Colquhoun  
Port Manager  
North Fraser Harbour Commission  
2020 Airport Road  
Richmond, BC  
V6B 1C6  
(604) 273-1866



APPENDIX III

ST. LAWRENCE SEAWAY TARIFF OF TOLLS

Title

1. This tariff may be cited as the St. Lawrence Seaway Tariff of Tolls.

Interpretation

2. In this tariff

- (a) "Authority" means The St. Lawrence Seaway Authority;
- (b) "Bulk cargo" means such goods as are loose or in mass and generally must be shovelled, pumped, blown, scooped or forked in the handling and, without limiting the generality of the term or otherwise affecting its meaning, shall be deemed to include:
  - (i) cement, loose or in sacks;
  - (ii) coke and petroleum coke, loose or in sacks;
  - (iii) domestic package freight;
  - (iv) ores and minerals (crude, screened, sized or concentrated, but not otherwise processed) loose or in sacks, including alumina, bauxite, coal, gravel, phosphate rock, sand, stone and sulphur;
  - (vi) pig iron, scrap metals;
  - (vii) pulpwood, poles and logs, loose or bundled;
  - (viii) raw sugar, flour, loose or in sacks;
  - (ix) woodpulp, loose or in bales;
- (c) "Cargo" means all goods aboard a vessel whether carried as revenue or non-revenue freight, or carried for the vessel owner, except: empty containers and the tare weight of loaded containers, all such containers having a capacity of 18 cubic meters (635.665 cubic feet) or more; ships' fuel, ballast or stores, or crew or passengers' personal effects, and intransit cargo that is carried both upbound and downbound in the course of the same voyage which shall be reported in the Seaway Transit Declaration Form but is deemed to be ballast and not subject to toll assessment;
- (d) "Containerized cargo" means any general cargo shipped in an enclosed, permanent, reusable, nondisposable, weathertight shipping conveyance having a capacity of 28 cubic meters (635,665 cubic feet) or more and fitted with a minimum of one hinged door;
- (e) "Corporation" means the Saint Lawrence Seaway Development Corporation;
- (f) "Domestic package freight" means cargo, the shipment of which originates at one Canadian point and terminates at another Canadian point, or which originates at one United States point and terminates at another United States point, but shall not include any import or export cargo designated at the point of origin for transshipment by water at a point in Canada or in the United States;



- (g) "Feed grains" means barley, corn, oats, flaxseed, rapeseed, soybeans and other oilseeds, grain screenings, and mill feed containing not more than 35percent of ingredients other than grain or grain products;
- (h) "Food grains" means buckwheat, dried beans, dried peas, rye and wheat;
- (i) "General cargo" means all goods not included in the definitions under paragraphs (b), (g), (h), and (j);
- (j) "Government aid cargo" means processed food products which have been donated by or the purchase of which has been financed on concessional terms by the Federal government of either the United States or Canada for the purposes of nutrition, economic development, emergency, or disaster relief programs;
- (k) "Metric ton" means, unless otherwise stated, a metric unit of weight of 1,000 kilograms (2204.62 pounds);
- (l) "Passenger" means any person being transported through the Seaway who has paid a fare for passage;
- (m) "Pleasure craft" means a vessel, however propelled, that is used exclusively for pleasure and does not carry passengers;
- (n) "St. Lawrence Seaway" includes all facilities and services authorized under the St. Lawrence Seaway Authority Act, Chapter 242, Revised Statutes of Canada, 1952, as amended, and under public Law 358, 83rd Congress, May 13, 1954, enacted by the Congress of the United States, as amended, and including the Welland Canal, which facilities are under the control and administration or immediate financial responsibility of either the Authority or the Corporation;
- (o) "Seaway" means the St. Lawrence Seaway;
- (p) "Tolls" means the total assessment levied against a vessel, its cargo and passengers for complete or partial transit of the Seaway covering a single trip in one direction;
- (q) "Vessel" means every type of craft used as a means of transportation on water, except a vessel of, or employed by, the Authority or the Corporation.

Tolls

3. (1) The tolls shall be as set forth in the Schedule hereto, and the toll level reached in 1983 shall remain in effect thereafter until modified.

- (2) The tolls under this tariff are due from the representatives of each vessel as soon as they are incurred, and upon demand of either the Authority or the Corporation, payment shall be made within fourteen days of the date of such demand.
- (3) The tolls for the section between Montreal and Lake Ontario shall be paid 73 percent in Canadian dollars and 27 percent in United States dollars. Payments for transit through locks in Canada only shall be in Canadian dollars, and payments for transit through locks in the United States only shall be in United States dollars.
- (4) The tolls for transit of the Welland Canal shall be paid in Canadian dollars and shall accrue to the Authority.

Security for Payment

4. A representative of each vessel shall provide the Authority or the Corporation with security, satisfactory to the Authority or the Corporation, for payment of tolls.

Description and Weight of Cargo

5. (1) A cord of pulpwood shall be deemed to weight 1,450 kilograms (3196.70 pounds).
- (2) (a) 1,000 f.b.m. of sawn softwood lumber with less than 15 percent moisture content shall be deemed to weigh 770 kilograms (1697.56 pounds).
- (b) 1,000 f.b.m. of sawn softwood lumber with 15 percent moisture content or over shall be deemed to weigh 950 kilograms (2094.39 pounds).
- (c) 1,000 f.b.m. of sawn hardwood lumber with less than 15 percent moisture content shall be deemed to weigh 1,135 kilograms (2502.24 pounds).
- (d) 1,000 f.b.m. of sawn hardwood lumber with 15 percent moisture content or over shall be deemed to weigh 1,405 kilograms (3097.49 pounds).
- (3) The tonnage used in the assessment of tolls shall be calculated to the nearest 1,000 (2204.62 pounds).

Post-Clearance Date Operational Surcharges

6. If the Authority and the Corporation so determine, they may establish a clearance date for the transit of the Montreal-Lake Ontario section. Each vessel which does not comply with the conditions announced by the Authority and the Corporation in establishing the clearance date may be required to pay, in dollars, an operational surcharge as follows:

- (a) Vessels reporting during the 24 hour period immediately following the clearance date: 20,000.00
- (b) Vessels reporting more than 24 hours late, but less than 48 hours after the clearance date: 40,000.00
- (c) Vessels reporting more than 48 hours late, but less than 72 hours after the clearance date: 60,000.00.
- (d) Vessels reporting more than 72 hours late, but less than 96 hours after the clearance date: 80,000.00.

The operational surcharge assessed vessels already at a port, dock or wharf within the St.Lambert-Iroquois Lock segment of the Montreal-Lake Ontario section at the clearance date shall be \$20,000 less than the amount otherwise applicable.

Each vessel which reports more than 96 hours after the clearance date may transit only if a prior written agreement authorizing such transit has been entered into among the owner or agent of the vessel and the Authority and the Corporation. Such agreement may provide for additional operational surcharges.

Assessed operational surcharges will be prorated on a per dock basis. Surcharges representing transit through United States locks will be for the account of the Corporation and payable in United States funds and surcharges representing transit through Canadian locks will be for the account of the Authority and will be payable in Canadian funds.

Schedule

Tolls

Montreal to or from <u>Lake Ontario</u>		Lake Ontario to or from Lake Erie <u>(Welland Canal)</u>	
1987	1988	1987	1988

1. For transit of the Seaway, a composite toll, comprising:

(1) a charge in dollars per gross registered ton, according to national registry of the vessel, applicable whether the vessel is wholly or partially laden, or is in ballast. (All vessels shall have an option to calculate gross registered tonnage according to prescribed rules for measurement in either Canada or the United States;

0.08	0.08	0.09	0.10
------	------	------	------

	1987	1988	1987	1988
(2) a charge in dollars per metric ton of cargo as certified on ship's manifest or other document, as follows:				
- bulk cargo	0.85	0.85	0.39	0.42
- general cargo	2.06	2.06	0.63	0.68
- containerized cargo	0.85	0.85	0.39	0.42
- government aid cargo	0.52	0.52	0.39	0.42
- food grains	0.52	0.52	0.39	0.42
- feed grains	0.52	0.52	0.39	0.42

(3) a charge in dollars per passenger per lock:	1.00	1.00	1.00	1.00
---	------	------	------	------

(4) a charge in dollars per lock for complete or partial transit of the Welland Canal in either direction by cargo or passenger vessels, which may be shared by vessels in tandem:

(i) loaded: per lock	n/a	n/a	315.00	340.00
(ii) in ballast: per lock	n/a	n/a	230.50	250.00

2. For partial transit of the Seaway:

(1) between Montreal and Lake Ontario in either direction, 15 percent per lock of the applicable toll.

(2) between Lake Ontario and Lake Erie, in either direction, (Welland Canal), 13 percent per lock of the applicable toll.

(3) Minimum charge in dollars per vessel per lock transited for full or partial transit of the Seaway:

- pleasure craft	5.00	5.00	7.00	7.00
- other vessels	10.00	10.00	13.00	13.00







## COMMUNICATIONS

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## COMMUNICATIONS

The Canadian communications system, consisting of postal services, couriers, telephone and telegraph communications, is one of the finest in the world. Canada is at the forefront in voice, text and data communications facilities, with a sophisticated infrastructure for high-speed, high-quality digital data transmission based on international standards. (For example, Northern Telecom sold more digital switches than any other firm in the world and the Mitel SX-2000 is considered by most to be the state of the art in digital PABXs). Saskatchewan has an extensive installation of cable and optical fibre for digital communications, the most advanced system in the world. Canada leads the world in applied videotex technology (i.e., Telidon, Teleguide and Grassroots systems) and, via BellNet, provides a unique centralized database service with on-call, on-line access to major Canadian and US databanks. The ensuing section examines each of the communications sectors in more detail.

### I POSTAL SERVICE

The postal service in Canada (Canada Post Corporation) delivers more than 6 billion pieces of mail a year. Services are available throughout Canada at 8,200 branches and neighbourhood post offices.

Canada Post offers several methods of mailing an item.

First Class: Delivery normally takes one to three days in Canada. Cost in Canada for standard envelopes, coded mail: up to 30 grams (1 ounce), 36¢; 30 to 50 g, 55¢; 50 to 100 g, 73¢. Delivery to the US: up to 30 g, 42¢; 30 to 50 g, 60¢; 50 to 100 g, 91¢. Delivery to other international locations: up to 20 g, 72¢; 20 to 50 g, \$1.12; 50 to 100 g, \$1.77. Discounts, based on quantity and frequency of use, are available for domestic mail.

Special Delivery: Delivery normally takes one to two days, (12 hours per day, seven days per week). Cost in Canada: \$1.96 plus first class rate. Outside Canada: \$1.96 plus postage.

Registered Mail: Provides legal proof of mailings. For a small fee, automatic acknowledgement of receipt is provided. Letters and parcels up to 30 kg (66 lb) may be registered. Costs in Canada: \$2.63 plus first class rate. Proof of delivery costs 56¢ extra. Insurance is available. Outside Canada: \$2.63 plus international postage rate.

Certified Mail: Proof of delivery, signed, is returned to sender. Costs: \$1.50 plus first class rate. Available in Canada only.

#### 1.1 Parcel Service

First class: Shipments travel by fastest available means. Can be combined with special delivery and can be registered, certified, given proof of delivery and insured. Weight maximum 30 kg (66 lb). There are size limits. Costs for 2 kg (4.4 lb) first class parcel with special delivery - Montreal to Toronto - \$5.26; Vancouver to Winnipeg - \$7.63; Toronto to Halifax - \$7.15.

Parcel post: Shipment is by land transport. Can be certified and has proof of delivery option. Weight limit of 30 kg (66 lb) and size restrictions apply.

## 1.2 Admail

Advertising by mail. Business can choose recipients, geographically and/or demographically. One hundred percent market coverage available.

Addressed: Coverage is from compiled lists. Canada Post is able to advise on where such lists are available. Material can be mailed at first class or third class bulk rate.

Unaddressed: Using maps, mail can be delivered precisely to indicated market. Cost ranges upward from 5.1¢ per item plus 40¢ per kg for letter carrier routes and 4.3¢ per item plus 42¢ per kg for non-letter carrier routes.

## 1.3 Electronic Mail

Telepost: Hard copy service with delivery the next day in North America. Same-day delivery in Canada, if combined with special delivery. Items can be sent by telephoning a CNCP public message service centre; over the counter at any CNCP office; or by direct input via telex, Electronic Office Services, Word Processing Mail or magnetic tape. Cost in Canada: \$4.50 for up to 50 words (each additional 25 words or less is 80¢). Special delivery adds \$1.96. From Canada to the US, costs are \$5.85 for up to 50 words, plus \$1.60 for each additional 25 words or less.

Intelpost: Facsimile transmission. Minimum size 12.6cm x 12.6cm (5x 5inches), maximum size 21.5cm x 35.5cm (8.5x 14inches). Counter pick-up available by addressee in 30 minutes within world-wide network. Same-day delivery when combined with special delivery. Cost in Canada: \$4.00 per page, plus \$2.00 transaction fee, plus \$1.96 for special delivery. Outside Canada: \$5.30 to \$12.72 per page (includes special delivery), plus \$2.00 transaction fee.

Envoypost: Available to subscribers of Telecom Canada's Envoy 100. (See below) Messages can be sent to any address in Canada, same-day delivery in major cities. Cost: \$1.50 (up to four pages).

## 2 TELEPHONE AND TELECOMMUNICATIONS SYSTEM

Canada has a vast, sophisticated telephone and telecommunications network consisting of about 120 separate systems, combining to link individuals and business throughout the country. There are 18 major telephone and telecommunications carriers serving most telephones in Canada. (See Table I). In addition, there are more than 100 other smaller, mostly rural, companies connecting to the network. CNCP Telecommunications, Teleglobe Canada and Telesat Canada operate microwave and satellite communication systems. Through Telecom Canada, the diverse systems are united into a common network.

Regulation of the system is carried out by the Canadian Radio Television and Telecommunications Commission (in the case of six federally regulated companies), by provincial governments, and in one case by a municipal government.

The latest technology is in use by the carriers, including six commercial satellites, microwave transmission facilities and fibre optics. Customers can lease time on commercial satellite channels, providing audio, video and data links between locations.

Cellular mobile telephone systems bring regular telephone service to practically any location.

## 2.1 Telegraph

Telegraph and Telex services are provided by CNCP. Rates for telegrams sent and delivered inside Canada are \$5.45 for 15 words plus 22¢ for each additional word.

## 2.2 Telex

Telex services are available from CNCP Telecommunications. The basic access charge for service is \$63.00 per month. Rental charges for equipment range from \$47.85 month for a standard keyboard terminal to \$121.70 per month for one with tape feed and an automatic sending and receiving device. There are higher rates for more elaborate machines. Telex rates vary according to distance and length of message (see Table 3).

## 2.3 Envoy 100 - Bell Canada

Bell Canada's Envoy electronic messaging service is a telex competitor, and is presently replacing their TWX system. Envoy requires a terminal capable of sending ASCII characters and a modem. Users can access anyone on Bell's Datapac network. Envoy is also capable of addressing the telex network. Costs are \$25.00 for initial hook-up and \$3.00 per month. Messages sent within Canada cost 35¢ per 1,000 characters regardless of distance, in addition to a charge of 35¢ per 1,000 characters to create the message, if created on-line.

## 3 RADIO

Radio communications devices are in widespread use by Canadians and range from simple paging apparatus to mobile radios. While parts of the radio broadcast band spectrum are reserved for police, ambulances and fire departments, others are available for use by the public and for business and personal use. All transmitters must be licensed by the Department of Communications.



TABLE 1  
MAJOR TELEPHONE AND TELECOMMUNICATIONS CARRIERS IN CANADA

<u>Company</u>	<u>Affiliation</u>	<u>Ownership</u>	<u>Type of Corporation</u>	<u>Principal Territory</u>
* Bell Canada	Telecom <sup>1</sup> Canada	Private	BCE <sup>2</sup> -owned	Ont, Que & eastern portion of NWT BC
* British Columbia Telephone	Telecom Canada	Private	Investor- owned	BC
* CNCP		Private/ Public <sup>3</sup>	Crown Corp./	Canada
Telecommunications			Investor- owned	
Teleglobe Canada	Telecom Canada	Private	Investor- owned	International/ Overseas Canada
* Telesat Canada	Telecom Canada	Private/ Public	Investor- owned	
* NorthwesTel		Public	CNR- owned	Western portion of NWT, Yukon & northern BC Newfoundland
* Terra Nova Telecommunications		Public	CNR- owned	
Alberta Government Telephones	Telecom Canada	Public	Crown Corp.	Alberta
Saskatchewan Telecommunications	Telecom Canada	Public	Crown Corp.	Saskatchewan
Manitoba Telephone System	Telecom Canada	Public	Crown Corp.	Manitoba
Maritime Telegraph and Telephone	Telecom Canada	Private	Investor- owned	Nova Scotia
New Brunswick Telephone	Telecom Canada	Private	Investor- owned	New Brunswick
Québec-Téléphone		Private	Investor- owned	Quebec
Newfoundland Telephone	Telecom Canada	Private	Investor- owned	Newfoundland
Télébec		Private	Investor- owned	Quebec
Island Telephone	Telecom Canada	Private	Investor- owned	PEI
Northern Telephone		Private	Investor- owned	Ontario
Edmonton Telephones		Public	Municipally owned	Edmonton
<sup>1</sup> Telecom Canada - Telephone System)		Previously	known as TCTS	(TransCanada
<sup>2</sup> BCE	- Bell Canada Enterprises			
<sup>3</sup> Priv./Pub.	- Private/Public			

\* Regulated by the Canadian Radio Television and Telecommunications Commission.

Source: CRTC, Annual Report.



TABLE 2  
SELECTED TELEPHONE SERVICE RATES

Monthly Rate	<u>Halifax</u>	<u>Montreal</u>	<u>Toronto</u>	<u>Winnipeg</u>	<u>Edmonton</u>	<u>Vancouver</u>
(Business Basic Service one line, one phone) <sup>1</sup> Long Distance <sup>2</sup>	\$37.50	\$40.60	\$43.75	\$20.00	\$29.75	\$47.60
Halifax		2.61 6.48	2.85 6.60	3.09 6.84	3.12 6.87	3.12 6.87
Montreal	2.55 5.50		1.41 5.41	3.00 6.50	3.30 7.50	3.30 7.50
Toronto	2.88 6.20	1.41 5.41		3.00 6.50	3.30 7.50	3.30 7.50
Winnipeg	3.21 7.20	3.00 6.50	3.00 6.50		3.00 6.50	3.00 6.50
Edmonton	3.15 7.14	3.15 7.14	3.15 7.14	2.73 5.90		2.39 2.79
Vancouver	3.30 7.50	3.30 7.50	3.30 7.50	3.00 6.50	2.85 5.00	

<sup>1</sup> Deposit and installation charges not included.

<sup>2</sup> 0900 to 1700, Monday to Friday; 3 minutes. Upper: station-to-station, customer-dialed. Lower: person-to-person, operator service (May 1987).

TABLE 3  
TELEX RATES BETWEEN SELECTED POINTS<sup>1</sup>

	<u>Vancouver</u>	<u>Edmonton</u>	<u>Winnipeg</u>	<u>Toronto</u>	<u>Montreal</u>
Halifax	1.2816	1.2816	1.2816	.7476	.6408
Montreal	1.2816	1.2816	1.068	.6408	
Toronto	1.2816	1.2816	.8544		
Winnipeg	.8544	.7476			
Edmonton	.6408				

<sup>1</sup> rates are in Canadian dollars per minute.

Source: CNCP Telecommunications, May 1987.

International rates, with Montreal as base, are shown in Table 4.

TABLE 4  
INTERNATIONAL TELEX RATES FROM MONTREAL

<u>To</u>	<u>Telex Rate</u> <sup>1</sup>
Atlanta	1.068
Boston	.534
Chicago	.7476
Dallas	1.2816
Los Angeles	1.2816
New York	.534
Dusseldorf	2.25
London	2.25
Milan	2.25
Paris	2.25
Tokyo	3.00

<sup>1</sup> Canadian dollars per minute.

Source: CNCP Telecommunications, May 1987.

#### 4 COURIER SERVICES

Courier services are available from the Canada Post Corporation and a number of companies located in the major centres. Rates for Priority Post Courier between selected locations in Canada are shown in Table 5. Rates include pick-up charge. Courier services are generally used when delivery time is important or when valuable goods are being sent. In addition to the rates shown, volume discounts are generally available, which can reduce the costs by up to 60 percent.

TABLE 5  
RATES FOR PRIORITY POST COURIER SERVICE  
BETWEEN SELECTED LOCATIONS IN CANADA<sup>1</sup>

	<u>Vancouver</u>	<u>Edmonton</u>	<u>Winnipeg</u>	<u>Toronto</u>	<u>Montreal</u>
Halifax	17.65	16.45	15.20	13.95	9.50
Montreal	15.80	15.20	13.95	9.50*	
Toronto	15.80	15.20	13.95		
Winnipeg	13.30	13.30			
Edmonton	13.30				

<sup>1</sup> In Canadian dollars, for parcels up to and including 1 kg (2.2 lbs)

\* Up to 5 kg (11 lbs)

Source: Canada Post Corporation.

5 MEDIA5.1 Television

Canada has 132 originating and 1,350 rebroadcasting television stations. The country is well served in both official languages by national television networks (CBC and CTV), several regional networks (Global, TVA, OECA and Radio-Quebec) and many independent television stations. One TV station in Toronto broadcasts programs for ethnic audiences. Reception, including in the far north, is obtained via individual antennae, community antennae, satellite relay or cable.

5.2 Radio

There are two national radio networks: the CBC, which provides programming in both English and French, and CKO, which provides a national English-language news service. In total, there are 698 originating and 852 rebroadcasting stations in Canada, eight of which are licensed to broadcast primarily in languages other than English and French. Most radio stations have some limited ethnic programming, mostly on the weekend during non-prime listening hours.

5.3 Print Media

Canada has one national daily newspaper, the Globe and Mail, and two weekly business newspapers, the Financial Post and Financial Times. In addition, other papers such as the Toronto Star publish regional versions. All large centres have at least one daily newspaper. In Montreal, there are major dailies in both official languages. Most medium and smaller centres have weekly newspapers. In the major centres, newspapers serving ethnic communities are published on a weekly, bi-weekly or monthly basis. In many instances, these ethnic publications have national distribution.

Canadians also publish nationally distributed periodicals and trade magazines directed at specific population strata, occupations, businesses or special interest groups.









## ENVIRONMENT

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## THE ENVIRONMENT

### 1 ENVIRONMENTAL PRIORITY

Concern with pollution and other environmental matters is a high priority in Canada. Regulatory material, at all levels of government, exists to protect Canadian wildlife, flora, air, water and soil quality. The following section outlines the existing legislation and services with regard to environmental issues.

### 2 FEDERAL LEGISLATION

Environment Canada's mandate is derived from the revised Government Organization Act (1979). This act establishes regulations and laws related to:

- national parks, national historic parks and sites, and heritage canals;
- preservation and enhancement of the quality of the natural environment, including water, air and soil quality;
- renewable resources including forest resources, migratory birds and other non-domestic flora and fauna;
- water;
- meteorology; and,
- other federal matters relating to the natural environment.

More specific powers and duties are defined by the Canada Water Act, Canada Wildlife Act, Clean Air Act, Environmental Contaminants Act, Forestry Development and Research Act, Game Export Act, Historic Sites and Monuments Act, International Power Improvements Act, Migratory Birds Convention Act, National Parks Act, Ocean Dumping Control Act and the Weather Modification Information Act.

Before establishing a business which produces hazardous emissions or waste, the investor should consult with Environment Canada. The department also has the responsibility to administer pollution control provisions of the Fisheries Act. The operation of the Federal Environmental Assessment Review Office is assigned to the Minister of the Environment, as is federal co-ordination in response to environmental emergencies.

3 SHARED JURISDICTION WITH PROVINCES

Every province in Canada has extensive environmental protection legislation and standards, ranging from regulations on acid rain emissions to forest conservation. The Constitution Act (1981) reflects the clear jurisdiction of the provinces over land, forests and natural resources within their boundaries. The federal government has jurisdiction over certain other areas such as Indian lands, the territories, national and historic parks and migratory bird sanctuaries. The nature of environmental issues is such that, in many areas, federal and provincial governments share jurisdictional responsibility. Consultation with the provinces prior to establishing a business which may produce environmental hazards is highly recommended.

4 ENVIRONMENTAL CONTROLS

The environmental activities of both the federal and provincial governments are concerned with the protection and conservation of air, water, soils, biota, and gene pools. To maintain a healthy and productive biosphere, all levels of government protect the natural environment from destabilizing forces. Both the federal and provincial governments have established programs in such areas as water and forest management and pest control.

Both levels of government are also involved in providing advice and information about changes in and threats to the environment. They complement each other in the provision of services such as air monitoring, weather forecasting, flood and sea ice predictions, and climate research.

Preserving the quality of the environment also involves dealing with wastes produced by industry. The aim is to promote the safe handling of industrial wastes that can cause pollution and illness, to encourage recycling in order to conserve energy and minerals, and to assist in keeping the country free of unnecessary waste.

Energy conservation is an integral part of the environmental perspective. It is essential to maintain renewable energy resources for Canada to continue to be productive. Further, there is considerable attention directed toward alternate sources of energy, including thermal, biomass, water, sun and wind.

Since 1970, many of the activities directed at protection of the environment have focused on checking further pollution of water, air and lands, and on beginning the process of repairing ecological damage. There is now an array of legislation and regulations designed to protect air, water, lands, and endangered species from pollution and harmful activities. Progress has been made on the restoration of the Great Lakes through Canada/US agreements, and the quality of air, water and lands around industrialized areas of the country is improving. Increased investment in municipal sewage treatment facilities has resulted in visible improvements in the water quality of many lakes and rivers. Air pollution controls have produced cleaner air in most major cities in Canada. Glass, paper and mineral waste recycling has resulted in conservation of energy and of both non-renewable and renewable resources. Emission limits for atmospheric contaminants have been legislated, and chemicals hazardous to human health and to wildlife have been banned or controlled.

5 SERVICES AND PROGRAMS

Environment Canada's programs fall into four related fields: atmospheric services, environmental conservation and protection, environmental quality, and natural and cultural heritage. In each of these areas, there are specific policies, programs and activities.

5.1 The Atmospheric Environment Service (AES)

The AES has primary responsibility for providing weather, climate, sea-state, ice and air quality information and research services for the safety of Canadians, for security of their property, and for the maintenance and enhancement of environmental quality.

The AES provides past data and forecast conditions for the atmosphere, status of sea-ice and sea-state, and conducts research into acid rain, atmospheric carbon dioxide, and other air pollutants and toxic chemicals. The AES also encourages the science and practice of meteorology in Canada and promotes Canada's atmospheric interests internationally.

Contact: Atmospheric Environment Service, Ottawa, Ontario, K1A 0H3.

5.2 Environmental Conservation and Protection Service (ECP)

The responsibilities of the ECP can be described under three general headings: environmental conservation, water management, and environmental protection.

5.2.1 Environmental Conservation (EC)

EC involves responsibility for policies and programs related to inland waters, wildlife and lands. EC works to ensure long-term sustainability and quality of the environment through planning and implementation of water quality and water resource development, migratory birds conservation and protection, and wildlife research and management, as well as management and operation of a national land data bank.

5.2.2 Environmental Protection (EP)

EP involves formulating policy and taking action to cope with threats to or adverse impacts on environmental quality, often in co-operation with other federal departments. EP is also concerned with the management of major priority programs such as toxic substances disposal and acid rain. The department seeks to ensure that all parties in the government and private sector are aware of and fulfill their responsibilities to protect and enhance the quality of the environment.

5.2.3 Water Management

In the past, the availability of water in Canada far exceeded requirements, and water was at hand at minimal cost to users. Currently, there is a growing imbalance between water supply and demand, particularly on the Prairies, and inadequate water quality in some parts of the country. The federal and provincial governments are considering major diversions between river basins and ecological zones and water allocation among



various users and political jurisdictions. The governments are very concerned about contaminants ranging from toxic chemicals to agricultural runoff entering Canada's water system, and have invested significant funds in research and water purification systems.

Contact: Conservation and Protection Service, Place Vincent Massey, 351 St. Joseph Blvd., Hull, Quebec K1A 0E7

### 5.3 Parks Service

The Parks Service is responsible for the protection and use of Canada's natural and cultural heritage. Parks Canada manages 31 national parks, national historic sites and monuments, and heritage waterways. The Parks Service contributes significantly to Canada's tourist industry while conserving Canada's natural, cultural and historic heritage. In 1986, the Parks Service welcomed over 20 million visitors to the national parks and more than five million to the historic parks and sites.

Contact: Parks Services, Ottawa, Ontario, K1A 1G2.

### 5.4 The Canadian Forestry Service (CFS)

The CFS, under the authority of the Ministry of State for Forestry and Agriculture, is responsible for Canada's forest resources. The service is concerned with forest management and conservation; prevention and protection from fire, insects and diseases; and forecasting supply and demand for timber, including forest biomass for energy production. The CFS is also involved in research activities in such areas as acid rain, toxic chemicals and water management. The CFS continues to coordinate its efforts with the provinces and industry through existing consultative and advisory bodies.

Contact: Canadian Forestry Service, Place Vincent Massey, 351 St. Joseph Blvd., Hull, Quebec, K1A 0C5

## 6 ENVIRONMENTAL PRIORITIES

### 6.1 Toxic Substances

Under the toxic chemicals management program, the federal government conducts research on chemicals which could threaten environmental quality and analyzes the life cycle of chemicals to predict environmental entry points of chemicals. Under this program, officials test, monitor, register, and (where necessary) develop guidelines and regulations which are consistently enforced. Both levels of government work towards a reduction in the amount of toxic waste by advocating the adoption of conservation, resource renewability, recycling and detoxification.

Past practices have allowed some toxic substances to escape into the environment, while others, stored with a minimum of safety, threaten to become a problem. Presently, a major priority is water quality in the Great Lakes and Niagara River, a matter being dealt with by the International Joint Council. Pesticides and herbicides pose potential hazards to the Canadian environment. Action has been taken to improve the evaluation of new pesticides and herbicides, as well as a re-evaluation



of those presently in use. The federal government oversees the management of hazardous waste deposit sites and is working towards minimizing the number of future sites by encouraging and facilitating waste recycling. In fact, the National Recycling Council has recently been established to promote recycling opportunities.

The province of Ontario has recently enacted much tougher hazardous waste disposal regulations backed by tighter surveillance and stiff fines, to ensure that irresponsible industries, waste haulers and dumpsite operators do not escape detection.

## 6.2 Acid Rain

Acid rain is a serious environmental problem caused by emissions of sulphur dioxide and nitrogen oxides both in Canada (mainly Ontario) and in the industrial midwest and northeast US. It affects lakes and streams, buildings and structures, forests, agriculture and human health. The federal government is planning reductions in atmospheric emission levels. Specifically, the stated objective is to reduce wet sulphate deposition in vulnerable areas to less than 20kg per hectare (17.5lbs per acre) per year. To this end, the Federal Long Range Transport of Air Pollutants Program is proceeding on four fronts:

- to design and implement, in cooperation with the provinces, Canadian abatement programs;
- to press the US to implement programs compatible with Canada's;
- to continually update the scientific data base on all aspects of the acid rain problem; and,
- to inform citizens in both countries of the acid rain problem.

In March 1984, federal and provincial environment ministers agreed to reduce sulphur dioxide emissions from Manitoba eastward, to 2.3 million tonnes (2.5 million tons), or half of the allowable 1980 level, by 1994. As of March 1987, three provinces - Ontario, Prince Edward Island and Newfoundland - had signed agreements with the federal government. The ministers also agreed that the federal government would take the lead on ensuring the implementation of the necessary emission reductions from smelters and that the provinces would take the lead in the monitoring of emissions from utilities. The federal and provincial governments are continuing to press the US for emission reduction standards. In June 1985, the premiers of eastern Canada struck a new deal with governors in the northeastern US to fight acid rain and to reduce sulphur dioxide emissions by 32 percent by 1993. This is the first such agreement reached by the countries in this area.

6.3 Protection of Canada's Natural Heritage

Canada is blessed with some of the most beautiful, distinctive and diversified natural features and ecosystems in the world. Since 1900, large natural areas have been set aside for the benefit and enjoyment of subsequent generations. The present generation has inherited this legacy as the National Parks system. These natural areas are visited annually by millions of Canadians and foreign tourists and have become a significant component of the tourist industry. These areas are protected from environmental hazards through the management of Parks Canada. Wetlands, which are vital to the maintenance of wildlife populations and water tables, are given special attention and protection to ensure the conservation of this important resource.

6.4 The North

The environmental uniqueness, wildlife, beauty and ecological sensitivity of the area north of 60degrees, with its harsh climate and geography, combined with increased industrial activity, make Canada's north a potential environmental problem area. To ensure that the north remains free of pollution and other environmental hazards, and to preserve the territories' native culture and landmarks, the federal government has set out the following program:

- establishment of new national parks;
- expansion of wildlife areas and migratory birds sanctuaries;
- development of historic parks and sites with particular emphasis on native culture;
- improved weather services for the safety of arctic aviation;
- leadership in the management of the larger interjurisdictional northern river systems;
- improved environmental assessment of major developments;
- maintenance of wildlife species; and,
- control over arctic shipping and marine oil spills.





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## RESEARCH AND DEVELOPMENT AND TECHNOLOGICAL INFRASTRUCTURE

### I CANADIAN TECHNOLOGICAL DEVELOPMENT

An important factor in investment decisions in the 1980s is the research and development (R&D) and technological infrastructure of host countries. Industrialized countries are concentrating their production and trade in sectors dominated by innovation from organized research, development and design. Greater reliance on technological change for growth means that trade increasingly comprises the transfer of knowledge and technical skills. The search for this type of talent has prompted a large number of firms to establish closer links to universities. Compressed technological cycles have convinced firms of the merits of joint ventures in R&D and production. The following section outlines the technological infrastructure Canada offers to potential investors.

#### I.1 The Tradition

Canadians have always been on the leading edge of scientific and technological innovation. In many ways, this is a product of the Canadian environment - telescoping distances, harvesting the country's rich resources, capturing the power inherent in its swiftly moving rivers and large lakes. Canada was among the first nations to develop powered flight; today Canadian technology is aboard the space shuttle, in the form of the Canadarm, the robot arm used to manipulate equipment in space. Canadians developed insulin, the heart pacemaker and the cobalt bomb, medical advances which save millions of lives; today Canadians contribute to advanced research in biotechnology. Canadians were and are still in the vanguard of the development of hydro electric power generation (witness the James Bay development) but have not let the abundance of natural water resources slow the development of alternate power sources. The Candu nuclear reactor, in wide use in Canada and other parts of the world, has an enviable performance and safety record. Canadians are developing power systems relying on sun, wind and tides.

Canadians developed new strains of Durum wheat, which are renowned for their yield and disease resistance. New agricultural and other food products are continuously supplied to the world via Canadian research, products such as new wheat varieties, canola, and triticale. Canadians lead the world in cold weather oil production and recovery. The tar sands, straddling the Alberta-Saskatchewan border, contain almost as much oil as the Middle East. Canadians have developed methods of extracting tar sands oil and have brought some areas into production. The telephone was a Canadian invention; Canada was the third nation in the world to build and design its own satellite, and today Canadian communications satellites are among the most reliable in orbit. Canada is spanned from coast to coast by microwave networks. Research and production are well under way into the establishment of fibre-optic communication systems which can move many times more data than conventional systems, a requirement of significant impact in these days of high-speed computer-based communications.

## 1.2 Advanced Technologies in the 1980s

The technological revolution of the 1970s produced considerable scientific achievements in Canadian industry. A pioneer in satellites, fibre optics and interactive videotex and teletext systems, Canada is a world leader in communications technology. A complex communications grid links Canadian telephones, not only to telephones throughout the world, but also to a wide array of Canadian and American radio, television, and computer facilities. The Canadian business community has been quick to take advantage of the resulting opportunities. The electronic office is routine in most large firms, where word processors and microcomputers boost productivity. When connected to their counterparts throughout the country, these machines provide virtually instant transmission of business documents. Teleconferencing via multi-party telephone links is a common way to speed corporate decision-making and cut costs.

Canadian industry has also made great progress in commercializing laser technologies. For example, Lumonics, Inc. of Kanata, Ontario, specializes in gas and solid state lasers with particular emphasis on laser coding products, and is considered to be in third place in world-wide sales. In the area of software, approximately 1,000 firms are suppliers, many producing innovative customized packages. The Cognos Corporation of Ottawa, Ontario, is a recognized leader in the production of custom software for Hewlett-Packard computers.

Canadian industry has also been quick to apply new industrial materials such as composite plastics. The de Havilland Dash-8 commuter plane employs the highest percentage (approximately 10 percent) of exterior composite plastic structure of any civil aircraft.

In robotics, the experience gained by Spar Aerospace in manufacturing the robot manipulator arm for the space shuttle is now being applied to developing robots for the mining industry.

### 1.2.1 Universities at the Cutting Edge

Canadian universities work in close cooperation with industry to ensure that basic research on advanced technologies is performed and diffused. The University of Waterloo is one of the top computer science centers in North America, and is at the leading edge of high technology research, working in close cooperation with business and industry to develop new products and processes. One of its major strengths is in the development of customized software packages in such diverse fields as advanced three-dimensional film-making software, fourth generation software (software that can be used without a knowledge of programming languages) and a database version of the Oxford English Dictionary. Other Waterloo research projects include roving robots that can mine minerals or cut down trees, finding new ways to diagnose blood disorders, and turning waste wood products into edible protein.



Waterloo has developed an industrial area on campus known as Research Technology Park, and encourages companies to establish facilities next to this major university research centre. Over the last few years, the university has spawned some 50 high-tech companies. Just this year, Hewlett-Packard moved its research and development facility from Toronto to Waterloo's Research Technology Park.

In 1984, IBM gave the university \$5 million in new equipment and will invest \$15 million more, as part of an ongoing program. In exchange, Waterloo will do research to adapt IBM's personal computers to educational uses. In late 1984, Digital Equipment announced a donation of \$25 million in equipment over the next few years. In return, the university will do research in the areas of VLSI (very large scale integrated) microchips, computer-aided learning, graphics, videotex, expert systems and other artificial intelligence applications, office automation, software engineering, networking and computer graphics.

In Alberta, the University of Calgary does almost \$35 million of externally-funded research a year, principally in the energy industry. In late 1984, the university and Control Data of Canada Ltd. of Mississauga, Ontario, entered into a 10-year agreement which saw the installation of a supercomputer (one of only three in Canada; the other two are owned by the federal government) at the university. This places the university at the leading edge of supercomputer technology. Approximately 51 percent of the supercomputer's time will be used by the Universities of Calgary, Alberta and Lethbridge. The remaining 49 percent of machine time will be used by industry. This important installation will allow researchers to undertake projects in such areas as seismic analysis and mathematical simulation as well as in other areas involving extensive numerical simulation.

In Nova Scotia, the Technical University of Nova Scotia (TUNS) is the nation's collegium or clearinghouse for technology relating to computer-aided design and computer-aided manufacture (CAD/CAM). The collegium is composed of more than 90 representatives from industry, government, universities, and research and development centres across Canada. In addition to a full range of CAD/CAM and engineering software, TUNS offers expertise in computer graphics, fisheries research, mapping, finite analysis, database management, software development and a wide range of engineering fields including civil, mechanical, electrical, agricultural and industrial engineering.

### 1.3 Policy

In March 1987, Canada's first National Science and Technology Policy was signed by the federal, provincial and territorial ministers responsible for science and technology. The policy, which will be more fully articulated in the coming months, focuses on encouraging the commercialization of technology by promoting technology diffusion and strengthening applied research and industrial innovation; developing technologies strategic to the growth of manufacturing, service and natural resource-based sectors; ensuring the availability of the necessary highly-qualified people; encouraging the basic and applied research and development fundamental to Canada's scientific capability; ensuring all Canadians share in the benefits and opportunities of science and technology, and; ensuring science and technology become an integral part of Canadian culture.

At present, government policy initiatives, with respect to research, development and technology, include:

- (a) Stimulation of research and development: spending should increase from its present level of 1.3 percent to 2.5 percent of the gross national product.
- (b) A commitment to the increased application and assimilation of foreign transferred technology. One important aspect of this policy is the creation of Investment Canada, which actively promotes technology-bearing investment. Another manifestation of the policy is the creation of a technology transfer group in the Department of External Affairs. As well, that department is seriously considering the allocation of additional resources for an increased number of post-based science counsellors, to report on foreign technology. On another front, the National Research Council is continuing and enhancing its involvement in technology transfer programs.
- (c) Enhanced diffusion of technology to industry: The creation by the Natural Sciences and Engineering Research Council (NSERC) has created the Canadian Microelectronics Corp. (CMC), a non-profit corporation, to manage the multi-university computerized network for the design and testing of VLSI circuits. A coordination centre at Queen's University verifies the designs and forwards them to Northern Telecom for fabrication. The Department of Regional Industrial Expansion (DRIE) has established a complementary network to encourage regional capabilities in the application of microelectronics to industrial processes and products. Both the CMC and DRIE networks have as their purpose the active transfer of technology or knowledge to industry from the universities or government, or between private companies.

Effective mechanisms for technology diffusion include: joint ventures between companies with abilities to manufacture and design products or processes, and licensing of technology or products to domestic manufacturers. Both are relatively quick and involve the products of R&D without most of the cost.

#### 1.4 Federal Support for Technological Development

The Canadian government provides support for technological development through a variety of mechanisms including tax incentives, grants, loans, contracts for goods and services, infrastructure support, and skills training related to high technology industries. Canada offers the most generous R&D tax treatment of all OECD countries except Singapore.

##### 1.4.1 Incentives for Research and Development

Special tax incentives are available to encourage corporations to undertake research and development. Both current and capital expenditures on eligible R&D activities can be written off in the year incurred. In addition, there is an investment tax credit available for current and capital R&D expenditures. The ITC for R&D applies to current expenses (such as wages and salaries) as well as expenditures on buildings and equipment used in qualified R&D activities. The ITC rate for R&D expenditures is



20 percent for large corporations (30 percent for large corporations carrying out R&D in the Atlantic region), and 35 percent for small corporations eligible for the lower federal tax rate (i.e. Canadian-controlled private corporations). Currently, the ITC related to R&D expenditures is 100 percent refundable for the first \$700,000 of ITC for current R&D expenses of small corporations (i.e. CCPCs), and 40 percent refundable for large corporations and for capital R&D expenses of small corporations and amounts over the \$700,000 limit for current expenses.

Under the tax reform proposals, the immediate write-off and the ITC will not apply to buildings after 1987, except for special structures such as wind tunnels. The immediate write-off and ITC for current R&D expenditures and for capital R&D expenditures other than buildings (e.g. equipment) will remain unchanged. The ITC related to R&D expenditures will remain 100 percent refundable for the first \$700,000 of ITC for current R&D of small corporations (and 40 percent for ITC on capital R&D and for ITC over the \$700,000 limit). For large corporations, the ITC will not be refundable after 1987 and limits will be placed on the ITC that can be claimed in one year.

## 2 POOL OF TALENT (MANPOWER)

### 2.1 Highly Qualified Manpower

A high proportion of Canadians who enter the school system graduate from secondary school. From 1972 to 1984, the annual number of secondary school graduates rose from 233,000 to 289,000, at an annual average rate of 1.7 percent. Annual figures are shown in Table I.

Table I also shows that a large number of secondary school graduates continue their education, at either community colleges or universities. During the same period, the number of community college graduates increased from 48,000 in 1972 to 82,000 in 1984, at an annual average rate of 4.3 percent; and the number of university graduates rose from 72,000 in 1972, to 92,000 in 1984, at an average rate of 1.9 percent per year. These latter two groups, of course, would include students who might have been out of the school system for a time before continuing their education.

The number of earned undergraduate and graduate diplomas and certificates has been increasing as well at an annual average rate of 4.9 percent. Table I shows that a significant proportion of university graduates continue at the graduate level. The annual number of master's degrees grew from 10,000 in 1972 to 15,000 in 1984, at an annual average rate of 2.7 percent. The number of earned doctorates did not change significantly in each of the 13 years, averaging just under 1,800 per year.

These figures, taken together, show that Canada has built up a formidable labour force of highly-qualified manpower. In fact, Canada, a country of 25 million, ranks 11th in the world both in the number of resident scientists and engineers, and in the proportion of professional and technical workers in the labour force.

## 2.1.1 Scientists, Engineers and Technologists

### 2.1.1.1 Occupational Distribution

Science, engineering and technology occupations can be subdivided into (a) natural sciences and engineering (NSE), and (b) social sciences and humanities (SSH). Table 2 illustrates the growth in each of those subsets between 1971 and 1984, by occupation. Over the 13-year period, the stock of NSE-oriented manpower increased by 80 percent, at an annual average rate of 4.6 percent. The largest group in the NSE sector was engineers and architects, which grew by about the same proportion, at the same rate. The SSH sector increased by 144 percent, at an average annual rate of 7.4 percent. Social work and related fields comprised the largest proportion, but grew at a slower average rate of 7.1 percent per year.

### 2.1.1.2 Bachelor's and First Professional Degrees

A comparison of the number and proportion of bachelor's and first professional degrees awarded in 1970 and 1983 is shown in Table 3. While the average proportions in the NSE and SSH sectors did not change, some internal shifts were encountered. In the NSE sector, there were minor movements away from agriculture and biological sciences and math and physical sciences toward health professions and engineering. In the SSH sector, larger redistributions occurred from the humanities and education fields into the social sciences. Over the 13-year period, the fastest growth was in the social sciences, engineering and applied sciences, and health professions.

TABLE 1  
GRADUATES BY LEVEL, CANADA, 1971-2 TO 1984

Year	Secondary school graduates	Community college diplomas	Undergraduate diplomas and certificates	Graduate diplomas and certificates	Bachelor's and first professional degrees	Master's degrees	Earned doctorates
1972	232,873	47,709	8,159	966	72,416	10,277	1,724
1973	239,258	50,052	9,045	948	70,664	10,603	1,929
1974	250,068	53,384	8,621	1,085	74,851	10,196	1,896
1975	255,010	54,348	7,887	1,112	80,754	11,068	1,840
1976	266,445	56,655	10,327	1,395	83,292	11,555	1,693
1977	288,193	60,687	9,261	1,270	87,356	12,375	1,702
1978	294,246	64,891	12,376	1,771	89,349	12,637	1,819
1979	292,013	67,883	12,339	1,531	87,238	12,351	1,803
1980	296,180	67,343	11,685	1,621	86,410	12,432	1,738
1981	305,142	68,744	13,880	1,417	84,926	12,903	1,816
1982	305,933	71,818	16,025	1,504	87,106	13,110	1,715
1983	289,099	75,797	15,337	1,654	89,770	13,925	1,821
1984	289,531	82,087	15,421	1,623	92,816	14,572	1,878

Source: Statistics Canada, Education in Canada, 1985; Statistics Canada, Universities: Enrolment and Degrees, 1984.

TABLE 2  
SCIENTISTS, ENGINEERS AND TECHNOLOGISTS, BY OCCUPATIONAL GROUP

<u>Occupational Group</u>	<u>1971</u> 000	<u>1984</u>
Natural Sciences and Engineering:	535	931
Physical sciences	32	41
Life sciences	17	32
Architects and engineers	79	130
Architects and engineers related	69	85
Mathematicians, statisticians and systems analysts	26	99
Medicine and health	312	544
Social Sciences and Humanities:	54	132
Social sciences	11	26
Social work and related fields	27	26
Library, museum and archival sciences	10	27
Other occupations in social sciences and related fields	6	13
TOTAL	589	1,063

Source: Statistics Canada, Science and Technology Indicators, 1985.

TABLE 3  
BACHELOR'S AND FIRST PROFESSIONAL DEGREES AWARDED

	<u>1970/No./%</u>		<u>1983/No./%</u>		<u>Growth Rate Average</u>	
					<u>Annual</u>	<u>Total(%)</u>
Natural Sciences and Engineering:	14,445	28.1	24,136	30.0	4.0	67.1
Agriculture and biological sciences	3,255	6.4	4,799	5.9	3.0	47.4
Engineering and applied sciences	4,084	7.9	7,728	9.6	5.0	89.2
Health professions	3,472	6.8	6,089	7.5	4.4	75.4
Mathematics and physical sciences	3,634	7.1	5,520	6.8	3.3	51.9
Social Sciences and Humanities:	36,786	71.9	56,598	70.0	3.4	53.9
Education	12,306	24.0	15,348	19.0	1.7	24.7
Humanities <sup>1</sup>	10,383	20.3	11,493	14.2	0.8	10.7
Social Sciences	14,097	27.6	29,757	36.9	5.9	111.1
TOTAL <sup>2</sup>	51,231	100	80,734	100	3.6	57.6

1 Includes fine and applied arts.

2 Does not include unclassified degrees.

Source: Statistics Canada, Science and Technology Indicators, 1985; Statistics Canada, Universities: Enrolment and Degrees, 1984.

A breakdown of bachelor degrees awarded in engineering is shown in Table 4. Although there were major changes in technology between the years shown, there were no significant trends into or out of any of the general fields listed, according to the proportion of degrees awarded.

TABLE 4  
BACHELOR'S DEGREES IN ENGINEERING, BY FIELD OF STUDY

Field of Study	1970/No./%		1975/No./%		1982/No./%		1983/No./%	
Chemical	494	14	367	9	688	11	731	12
Civil	706	20	979	24	1,314	21	1,157	19
Electrical	883	25	979	24	1,502	24	1,583	26
Mechanical	777	22	856	21	1,502	24	1,644	27
Other	671	19	897	22	1,251	20	731	12
TOTAL	3,531	100	4,078	100	6,257	100	6,089	100

Source: Statistics Canada, Science and Technology Indicators, 1985; Statistics Canada, Universities: Enrolment and Degrees, 1984.

### 2.1.1.3 Master's Degrees

From 1975 to 1983, the number of master's degrees awarded increased by 25 percent. As with the bachelor's and first professional degrees, there was only a minimal difference in composition between the NSE and SSH sectors over the eight-year period, but within each sector, there were changes of some significance (see Table 5). In the NSE sector the fastest growth was in the health professions. In the SSH sector, there was a decline of 5.1 percent in degrees awarded in the humanities, with growth in both education (38 percent) and social sciences (32.8 percent).

TABLE 5  
MASTER'S DEGREES AWARDED BY FIELD OF STUDY

	1975/No./%		1983/No./%	Growth Rate Average		
				Annual	Total(%)	
Natural Sciences and Engineering:	2,560	23.2	3316	24.0	3.3	29.5
Agricultural and biological sciences	473	4.3	624	4.5	3.5	31.9
Engineering and applied sciences	963	8.7	1,285	9.2	3.7	33.4
Health professions	303	2.8	553	4.0	7.8	82.5
Mathematics and physical sciences	821	7.4	833	6.0	.2	1.5



	1975/No./%		1983/No./%		Growth Rate Average	
					Annual	Total(%)
Social Sciences and Humanities:	8,471	76.8	10,506	75.9	2.7	24.0
Education	2,161	19.6	2,983	21.6	4.1	38.0
Humanities <sup>1</sup>	2,256	20.5	2,138	15.4	-7	-5.4
Social Sciences	4,058	36.8	5,389	39.0	3.6	32.8
TOTAL <sup>2</sup>	11,068	100	13,834	100	2.8	25.0

1 Includes fine and applied arts.

2 Does not include unclassified degrees.

Source: Statistics Canada, Science and Technology Indicators, 1985.

#### 2.1.1.4 Doctoral Degrees

Data describing earned doctorates in selected years by field of study are shown in Table 6. The production of doctorates has been relatively constant in recent years but is up significantly from the early 1970s. The proportion of doctorates granted in the area of the health professions appears to be increasing, as well as that in education.

TABLE 6  
EARNED DOCTORATES, BY FIELD OF STUDY

	<u>1970</u>	<u>%</u>	<u>1976</u>	<u>%</u>	<u>1983</u>	<u>%</u>
Natural Sciences and Engineering:	972	70.9	869	51.3	981	54.0
Agriculture and biological sciences	247	18.0	197	11.6	247	13.6
Engineering and applied sciences	191	13.9	188	11.1	220	12.1
Health professions	87	6.3	105	6.2	174	9.6
Mathematics and physical sciences	447	32.6	379	22.4	340	18.7
Social Sciences and Humanities:	400	29.1	818	48.3	835	46.0
Education	78	5.7	157	9.3	189	10.4
Humanities <sup>1</sup>	164	12.0	264	15.6	261	14.4
Social Sciences	158	11.5	397	23.5	385	21.2
TOTAL <sup>2</sup>	1,372	100	1,693	100	1,816	100

1 Includes fine and applied arts.

2 Does not include unclassified degrees

Source: Statistics Canada, Science and Technology Indicators, 1985; Statistics Canada, Universities: Enrolment and Degrees, 1983



2.1.1.5 Industrial Distribution

From 1971 to 1984, the number of scientists, engineers and technologists, classified by industry, grew by 74.0 percent at an annual average rate of 4.4 percent, from 535,000 to 931,000. This is shown in Table 7.

A more detailed look at the services and manufacturing industries is shown in Tables 8 and 9. SSH sector occupations rose more quickly than those in the NSE from 1971 to 1984, a 162 percent increase compared to 74 percent. In the SSH sector, the numbers involved in library, museum and archival sciences rose most rapidly (187 percent). This might be explained by the emerging need to organize, catalogue and distribute the vast amounts of information and data which became available and were required by a more demanding computer-oriented service sector. The mathematics, statistics and systems analysis group in the NSE sector increased from 5,000 in 1971 to 32,000 in 1984, an average annual rate of 15.3 percent, for a total increase of 540 percent. This group largely analyzes and manipulates data and information, and the extraordinary growth can largely be explained by the same factors. Architects and engineers increased in total numbers by 124 percent to 38,000, as the demand for consultants and designers of buildings, plants and machinery increased.

TABLE 7  
SCIENTISTS, ENGINEERS AND TECHNOLOGISTS, BY INDUSTRY

	1971 (000)	%	1984 (000)	%	Growth Rate Average	
					%	%
Agriculture	1	0.2	-	-	n/a	n/a
Other primary production	15	2.8	n/a	n/a	n/a	n/a
Manufacturing	67	12.5	124	13.3	4.8	85.1
Construction	11	2.1	8	0.9	-2.4	-27.3
Transportation	25	4.7	43	4.6	4.3	72.0
Trade	6	1.1	32	3.4	13.7	433.3
Finance	4	0.7	18	1.9	12.3	350.0
Services	352	65.8	611	65.6	4.3	73.6
Public administration	54	10.1	88	9.5	3.8	63.0
TOTAL	535	100	931	100	4.4	74.0
- Less than 500						
n/a Not available						

Source: Statistics Canada, Science and Technology Indicators, 1985.

TABLE 8  
SCIENTISTS, ENGINEERS & TECHNOLOGISTS IN SERVICES

(,000)	1971/No./%		1984/No./%		Growth Rate	
					Annual	Average Total(%)
Natural Sciences and Engineering:	532	90.5	611	86.3	4.3	73.6
Physical sciences	8	2.1	11	1.6	2.5	37.5
Life sciences	7	1.8	8	1.1	1.0	14.3
Architects and engineers	17	4.4	38	5.4	6.4	123.5
Architecture, engineering related	18	4.6	27	3.8	3.2	50.0
Mathematics, statistics, and systems analysts	5	1.3	32	4.5	15.3	540.0
Medicine and health	297	76.3	495	69.9	4.0	66.7
Social Sciences and Humanities:	37	9.5	97	13.7	7.7	162.2
Social sciences	6	1.5	15	2.1	7.3	150.0
Social work and related	18	4.6	49	6.9	8.0	172.2
Library, museum and archival sciences	8	2.1	23	3.2	8.5	187.5
Other	5	1.3	10	1.4	5.5	100.0
TOTAL	389	100	708	100	4.7	82.0

Source: Statistics Canada, Science and Technology Indicators, 1985.

In manufacturing, almost all the scientists, engineers and technologists are in the NSE sector. Total growth over the 1971 to 1984 period was 85 percent, compared to 82 percent in services. The highest growth was registered for the life sciences group, which rose by 600 percent, from 1,000 to 7,000 persons. The largest numerical group, composed of architects and engineers, increased from 27,000 to 48,000, or by a total of 78 percent. The slow growth rate for this group might be explained by the high rate of growth for their service sector counterparts. The consulting business may be replacing in-house expertise. This is partly a cost-cutting measure in manufacturing, but at the same time widens that industry's perspective by having many types of talent and expertise available on a call basis.

TABLE 9  
SCIENTISTS, ENGINEERS AND TECHNOLOGISTS IN MANUFACTURING

	<u>1971</u> <u>(000)</u>	<u>%</u>	<u>1984</u> <u>(000)</u>	<u>%</u>	Growth Rate Average	
					<u>%</u>	<u>%</u>
Natural Sciences and Engineering	67	97.1	124	98.4	4.8	85.1
Physical sciences	11	15.9	20	15.9	4.7	81.8
Life sciences	1	1.4	7	5.6	16.1	600.0
Architects, and engineers	27	39.1	48	38.1	4.5	77.8
Architecture, engineering related	17	24.6	22	17.5	2.0	29.4
Mathematics, statistics, and						
systems analysts	7	10.1	18	14.3	7.5	157.1
Medicine and health	4	5.8	9	7.1	6.4	125.0
Social Sciences and Humanities:	2	2.9	-	n/a	n/a	n/a
TOTAL	65	100	126	100	4.7	36.9
- Less than 500						
n/a not available						

Source: Statistics Canada, Science and Technology Indicators, 1985.

TABLE 10  
GEOGRAPHIC DISTRIBUTION OF SCIENTISTS, ENGINEERS AND TECHNOLOGISTS, 1984

	Atlantic Provinces		Quebec		Ontario		Prairie Provinces		British Columbia		Canada	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	(000)	—	(000)	—	(000)	—	(000)	—	(000)	—	(000)	—
Natural Sciences and Engineering:	67	7.1	230	24.7	354	38.0	179	19.2	101	10.8	931	100
Physical sciences	n/a	n/a	10	24.4	15	36.6	10	24.4	4	9.8	41	100
Life sciences	n/a	n/a	6	18.8	13	40.6	6	18.8	4	12.5	32	100
Architects, engineers, Architects, engineering related, mathematics, statistics and systems analysts	7	5.4	27	20.8	58	44.6	24	18.5	14	10.8	132	100
Medicine and health	7	8.2	16	18.8	32	37.6	20	23.5	10	17.4	85	100
	n/a	n/a	25	25.2	49	49.5	15	15.2	7	7.1	99	100
	45	8.3	146	26.8	187	34.4	104	19.1	62	11.4	544	100
Social Sciences and Humanities	9	6.8	33	25.0	47	35.6	27	120.5	16	12.1	132	100
Social sciences	n/a	n/a	8	30.8	10	38.5	4	15.4	n/a	n/a	26	100
Social work and related	4	6.1	17	25.8	22	33.3	14	21.2	9	13.6	66	100
Library museums, and archivists	n/a	n/a	6	22.2	11	40.7	5	18.5	n/a	n/a	27	100
Other	n/a	n/a	4	30.8	4	30.8	4	30.8	n/a	n/a	13	100
TOTAL	76	7.1	263	24.7	401	37.7	206	19.4	117	11.0	1,063	100

n/a - not available

Source: Statistics Canada, Science and Technology Indicators, 1985.

TABLE 11  
COMMUNITY COLLEGE DIPLOMAS GRANTED IN  
CAREER PROGRAMS, BY FIELD OF STUDY

<u>Field of Study</u>	<u>1978-79</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1982-83*</u>	<u>Average Annual Growth %</u>
Arts	4,403	4,700	4,715	5,204	5,034	3.4
Secretarial	3,674	4,068	3,566	3,606	3,809	0.9
Management and administration	2,422	2,611	2,941	3,470	3,998	13.4
Data processing and computer science	1,212	1,300	1,743	2,293	2,856	23.9
Financial management	2,518	3,207	3,072	3,168	3,364	7.5
Other business	2,032	2,323	2,665	2,697	2,756	7.9
Communications and social services	6,305	6,392	6,611	6,691	7,343	3.9
Education	154	136	120	101	147	-1.2
Architecture	1,171	1,250	1,206	1,214	1,266	2.0
Mechanical engineering	1,043	1,280	1,232	1,495	1,420	8.0
General engineering	2,012	2,069	2,174	2,022	2,403	4.5
Other engineering	473	553	684	872	740	11.8
Nursing	7,089	6,998	6,790	6,479	6,676	-1.5
Medical treatment technician	2,725	2,370	2,428	2,458	2,496	-2.2
Other medical services	594	534	501	571	630	1.5
Natural resources	2,755	2,909	3,096	3,031	3,289	4.5
Chemical technology	672	640	646	703	664	-3
Electrical/electronic technician	2,563	2,627	2,641	2,923	3,157	5.4
Transportation	269	257	300	279	324	4.8
Other miscellaneous programs	385	498	456	442	239	n/a
Not reported	9	11	36	75	104	n/a
TOTAL	44,480	46,733	47,623	49,994	52,715	4.3

\* The 1982-83 figures are based on a revised classification system for fields of study.

n/a not applicable

Source: Statistics Canada, Post-secondary Education Sector, Education, Culture and Tourism Division.

TABLE 12  
COMMUNITY COLLEGE DIPLOMAS GRANTED IN CAREER  
PROGRAMS, BY FIELD OF STUDY AND PROVINCE, 1982-83

	<u>Nfld.</u>	<u>PEI</u>	<u>NS</u>	<u>NB</u>	<u>Que.</u>	<u>Ont.</u>	<u>Man.</u>	<u>Sask.</u>	<u>Alta.</u>	<u>BC</u>	<u>TOTAL</u>
Health sciences and related arts	327	58	439	325	2,354	3,275	639	541	923	921	9,802
Humanities and related	-	29	-	16	563	2,652	48	-	485	507	4,300
Engineering and applied sciences	-	11	-	-	173	405	20	-	74	51	734
Natural sciences and primary industries	183	35	361	284	3,699	5,420	308	189	1,539	812	12,830
Social sciences and services	44	24	38	85	715	1,434	5	38	668	232	3,289
Business and commerce	12	165	166	-	2,137	3,853	105	13	750	286	7,490
Other	111	144	101	147	4,161	6,274	346	141	1,278	1,224	1,3927
	-	-	-	-	2	311	-	-	28	2	343
TOTAL	677	466	1,109	857	13,04	23,624	1,471	922	5,745	4035	52715 *

\* including nine in the Northwest Territories.

Source: Statistics Canada, Post-secondary Education Sector, Education Culture and Tourism Division.



2.1.1.6 Geographic Distribution

The geographic distribution of scientists and engineers is presented in Table 10. Ontario claims 38 percent of the NSE sector and 36 percent of the SSH, due to the nature and geographic distribution of the population and economy. Quebec has the next largest share, following which come the Prairies, British Columbia and the Atlantic provinces.

2.2 Skilled Labour2.2.1 Community Colleges

The community college system in Canada has produced a highly-skilled pool of labour, with post-secondary school qualifications below university level. Table 11 lists the number of community college diplomas awarded in career programs by field of study from 1978-79 to 1982-83. The fastest-growing field of study was data processing and computer science, which, more than doubled, over the five years, growing at an average annual rate of 23.9 percent. Managerial and administrative diplomas rose at an average annual rate of 13.4 percent and mechanical and other engineering graduates rose at average rates of 8.0 and 11.8 percent respectively. Several courses of study declined over the period. Education diplomas decreased at an average annual rate of 13.12 percent from 1978 to 1981, before increasing substantially in 1982-83. The annual number of diplomas in nursing and medical treatment technologies fell at rates of 1.5 percent and 2.2 percent, respectively. Nevertheless, nursing still made up one of the largest segments of the total, involving some 13.0 percent in 1982-83.

Other large fields included community and social services (13.9 percent of the 1982-83 total), which rose at an annual average rate of 3.9 percent; financial management (6.4 percent of the total), which increased at a rate of 7.5 percent per year; natural resource technologies (6.2 percent of the total), which rose at an average annual rate of 4.5 percent; and electrical and electronic technologies (6.0 percent of the total), which rose over the period at an average rate of 5.4 percent. Overall, the number of diplomas awarded in career programs grew from 44,480 in 1978-79, to 52,715 in 1982-83, at an annual average rate of 4.3 percent.

The geographic distribution by field of study of the 52,715 recipients of community college diplomas in 1982-83 is listed in Table 12. Some 45 percent were located in Ontario, with 26 percent in Quebec, 15 percent in the Prairie provinces, 8 percent in British Columbia and 6 percent in the Atlantic provinces.

2.2.2 Apprentices and the Stock of Labour

In 1983, over 100,000 persons participated in the apprenticeship program in Canada. During that year, 11,832 certificates were granted with the interprovincial seal, which allows journeymen to practice their trade in several provinces, and 18,995 certificates were granted without interprovincial seal. The majority of apprentices are registered in trades with interprovincial standards examinations - at year end 1983, some 92,274 of the 112,017 total (82.4 percent).

Geographically in 1983 the largest proportion of apprentices were located in Ontario (35 percent), while 22 percent were registered in Alberta, 16 percent in Quebec, 12 percent in British Columbia, 9 percent in the Atlantic provinces, and 6 percent in Manitoba and Saskatchewan.

The range of trades represented by apprenticeship programs is wide, reflecting the demand for skilled labour in the Canadian work force. Of the 112,017 individuals registered in apprenticeship programs at the end of 1983, 20 separate trades had over 1,000 registrants each (see Table 13).

The trades listed in Table 13 account for 82.9 percent of the total registrants in apprenticeship programs. Approximately 75 other trades make up the rest of the 112,000 enrolled in 1983.

While there are no recent estimates of the labour force by occupation, the 1981 census provides some figures. In June 1981, there were 485,000 persons in processing occupations, 314,000 in machining occupations, 956,000 involved in product fabricating, assembling and repairing, and 784,000 in the construction trades. Added to these totals are about 30,000 graduating apprentices per year.

TABLE 13  
APPRENTICESHIP TRAINEES, MAJOR TRADES, 1983

<u>Trade</u>	<u>% Total</u>
Motor vehicle mechanic	12.9
Construction electrician	12.4
Carpenter	11.5
Radio and television service personnel	5.0
Steamfitter-pipefitter	4.8
Heavy duty equipment mechanic	4.0
Industrial electrician	3.8
Industrial mechanic	3.8
Sheet metal worker	3.4
Motor vehicle body repairer	3.3
Welder	2.7
Machinist	2.7
Hairdresser	2.4
Cook	2.2
Tool and die maker	1.6
Bricklayer	1.5
Refrigeration and air conditioning mechanic	1.3
Electrician (miscellaneous)	1.2
Ironworker	1.2
Painter and decorator	1.2

Source: Statistics Canada

3 RESEARCH AND DEVELOPMENT3.1 Total R&D Expenditures

R&D expenditures in the natural sciences and engineering in Canada increased from \$1,160 million in 1971 to \$5,796 million in 1985, at an annual average rate of 12.2 percent. (See Table 14.) In 1971 dollars, R&D rose from \$1,160 million in 1971 to \$1,888 million in 1985, at an annual average rate of 3.5 percent.

TABLE 14  
RESEARCH AND DEVELOPMENT EXPENDITURES IN  
NATURAL SCIENCES AND ENGINEERING

<u>Year</u>	<u>GERD<sup>1</sup></u> <u>(\$ million)</u>	<u>GERD/GNP</u> <u>(%)</u>	<u>GERD (\$1971)</u> <u>(\$ million)</u>
1971	1,160	1.23	1,160
1972	1,195	1.14	1,135
1973	1,284	1.04	1,120
1974	1,504	1.02	1,138
1975	1,686	1.02	1,138
1976	1,833	0.96	1,144
1977	2,055	0.98	1,193
1978	2,348	1.01	1,278
1979	2,695	1.02	1,330
1980	3,153	1.06	1,400
1981	3,946	1.16	1,580
1982	4,647	1.30	1,687
1983	4,876	1.25	1,678
1984 <sup>2</sup>	5,466	1.30	1,826
1985	5,796	1.30	1,888

\* Gross domestic expenditure on research and development.

p preliminary

Source: Statistics Canada, Science and Technology Indicators, 1985.

3.2 Who is Performing Research and Development?

The major proportion of R&D spending in Canada is conducted by private business. Over the 1971-85 period, actual expenditures by the business sector grew at an average annual rate of 14.4 percent, from \$464 million to \$3,044 million. Business's share rose from 40 percent to 53 percent of the total.

Federal and provincial governments carried out proportionately less R&D in the 1980s, than in the 1970s (32 percent compared to 27 percent on average). The universities' share of R&D expenditure declined from 27 percent in 1971 to 19 percent in 1985. Table 15 illustrates the changing pattern of R&D performance.

Statistics Canada has recently published the Directory of Industrial Research and Development Facilities in Canada, 1985 (Catalogue No. 88-205-E). It lists all private industrial research facilities in Canada and describes the mandate of each facility, the area of research currently being undertaken, the type of research equipment in use, and the number of scientists employed, as well as other valuable information. This catalogue can be obtained at a modest cost from Statistics Canada, Ottawa, K1A 0T5, from any Statistics Canada Reference Centre, or by telephoning (613)-990-9919. Table 16 provides a geographic distribution of the data contained in this publication, the details of which are summarized in Section 4.2.

TABLE 15  
GERD<sup>1</sup> BY PERFORMING ECONOMIC SECTOR

<u>Year</u>	<u>Fed. Govt.</u>	<u>Prov. Govts.</u>	<u>Business Enterprise (\$ million (%))</u>	<u>Higher Education</u>	<u>Private non-profit</u>	<u>Total</u>
1971	341 (29)	33 (3)	464 (40)	312 (27)	10 (1)	1,160 (100)
1972	369 (31)	39 (3)	462 (39)	313 (26)	12 (1)	1,195 (100)
1973	395 (30)	48 (4)	503 (39)	325 (25)	13 (1)	1,284 (100)
1974	444 (30)	59 (4)	613 (41)	373 (25)	15 (1)	1,504 (100)
1975	472 (28)	61 (4)	700 (42)	437 (26)	16 (1)	1,686 (100)
1976	500 (27)	70 (4)	755 (41)	481 (26)	18 (1)	1,833 (100)
1977	556 (27)	81 (4)	857 (42)	540 (26)	21 (1)	2,055 (100)
1978	636 (27)	86 (4)	1,006 (43)	594 (25)	26 (1)	2,348 (100)
1979	646 (24)	101 (4)	1,266 (47)	653 (24)	29 (1)	2,695 (100)
1980	737 (23)	123 (4)	1,570 (50)	688 (22)	34 (1)	3,153 (100)
1981	865 (22)	139 (4)	2,126 (54)	775 (20)	41 (1)	3,946 (100)
1982	1,042 (23)	169 (4)	2,494 (54)	897 (19)	45 (1)	4,647 (100)
1983	1,171 (24)	170 (4)	2,518 (52)	958 (20)	59 (1)	4,876 (100)
1984 <sup>2</sup>	1,404 (26)	180 (3)	2,795 (51)	1,023 (19)	65 (1)	5,466 (100)
1985 <sup>2</sup>	1,419 (24)	188 (3)	3,044 (53)	1,074 (19)	71 (1)	5,796 (100)

<sup>1</sup> Gross domestic expenditure on research and development.

<sup>2</sup> Preliminary

Source: Statistics Canada, Science and Technology Indicators, 1985.



TABLE 16  
GEOGRAPHIC DISTRIBUTION OF  
PRIVATE INDUSTRIAL RESEARCH FACILITIES, 1986

Newfoundland	3
Nova Scotia	28
Prince Edward Island	2
New Brunswick	11
Quebec - East	26
Quebec - West	44
Metropolitan Montreal	87
Eastern Ontario	96
Central Ontario	136
Metropolitan Toronto	123
South Western Ontario	69
Northern Ontario	7
Manitoba	25
Saskatchewan	23
Alberta	72
British Columbia	82
<b>TOTAL</b>	<b>834</b>

Source: Statistics Canada, Directory of Industrial Research and Development Facilities in Canada, 1986 (Catalogue #88-205-E).

Similar information on some 250 federal laboratories has also been collected and published as the Directory of Federal Government Scientific and Technical Establishments, 1986 (Catalogue No. 88-206-E).

The third and final phase of the project will be a data base of university-affiliated research institutes or technology centres, produced by the Ministry of State for Science and Technology and the Department of Regional Industrial Expansion (DRIE). This will cover some 200 Canadian university institutes and provincial research organizations which provide R&D services and support to private industry.

The directory defines "technology centres" as organizations sustained (through grants, contributions or contracts) or operated by the federal government and which function predominantly in support of industry needs for new technology or specific technical skills.

The major criterion used in the project is a "Direct Service to Industry Index". Any establishment providing over 20 percent of its time and effort in direct support of industry was included. A partial list of these centres can be found in Appendix 1.

### 3.3 Who is Funding Canadian R&D?

While provincial and federal governments performed less than 30 percent of R&D, they nevertheless funded about half. The proportion funded by the federal government declined from 47 percent in 1971, to about 37 percent in 1985. Provincial governments, on the other hand, increased their share of R&D and funding from five percent in 1971,

to six percent in 1985. Funding by colleges and universities was down by approximately half in 1985 compared to 1971. The private business sector has increased its share of R&D funding from about 30 percent in the early 1970's to over 40 percent in the early 1980s. The government's share is about average by international standards. In addition, 64 percent of government-funded R&D is performed by the government.

Figure 1 illustrates the relative importance of the federal government in funding and performing R&D in the four regions of Canada.

### 3.4 Where is R&D Performed?

Over half (53.3 percent) of total Canadian R&D in 1983 was performed in Ontario, with 21.5 percent done in western Canada, 19.4 percent in Quebec and 5.3 percent in the Atlantic provinces. About 61 percent of all 1983 private business R&D was done in Ontario, marginally greater than the proportion of federal government R&D done in that province (51 percent).

The business enterprise sector is the largest performing and funding sector for all regions except the Atlantic provinces. The federal government is the predominant R&D performer and funder in that region.

Figure 2 illustrates the distribution of R&D by performing sector, for 1983, based on data contained in Table 18.

TABLE 17  
GERD BY FUNDING SECTOR

<u>Year</u>	<u>Federal govt.</u>	<u>Prov- incial govts.</u>	<u>Business enter- prise</u>	<u>Higher educa- tion</u>	<u>Private non- profit</u>	<u>Foreign</u>	<u>Total</u>
(\$ million (%))							
1971	535 (47)	56 (5)	346 (31)	127 (11)	37 (3)	25 (2)	1,126 (100)
1972	568 (48)	70 (6)	371 (31)	116 (10)	41 (3)	29 (2)	1,195 (100)
1973	606 (47)	82 (6)	407 (32)	111 (9)	46 (4)	32 (3)	1,284 (100)
1974	666 (44)	94 (6)	511 (34)	146 (10)	52 (3)	35 (2)	1,504 (100)
1975	704 (42)	101 (6)	583 (35)	192 (11)	57 (3)	49 (3)	1,686 (100)
1976	754 (41)	122 (7)	626 (34)	217 (12)	64 (4)	50 (3)	1,833 (100)
1977	834 (40)	146 (7)	704 (34)	235 (11)	72 (4)	64 (3)	2,055 (100)
1978	933 (40)	166 (7)	839 (36)	252 (11)	84 (4)	74 (3)	2,348 (100)
1979	975 (36)	183 (7)	1,089 (40)	276 (10)	91 (3)	81 (3)	2,695 (100)
1980	1,115 (35)	207 (7)	1,374 (44)	254 (8)	103 (3)	100 (3)	3,153 (100)
1981	1,383 (35)	249 (6)	1,813 (46)	244 (6)	120 (3)	136 (3)	3,946 (100)
1982	1,671 (36)	305 (7)	2,021 (43)	320 (7)	119 (3)	211 (5)	4,647 (100)
1983	1,852 (38)	304 (6)	2,063 (42)	291 (6)	141 (3)	224 (5)	4,876 (100)
1984 <sup>1</sup>	2,155 (39)	320 (6)	2,288 (42)	305 (6)	150 (3)	248 (5)	5,466 (100)
1985 <sup>1</sup>	2,157 (37)	337 (6)	2,492 (43)	382 (7)	159 (3)	269 (5)	5,796 (100)

1 Preliminary

Source: Statistics Canada, Science and Technology Indicators, 1985.



TABLE 18  
GEOGRAPHIC DISTRIBUTION OF R&D, 1983

Performing Sector	Atlantic Provinces	Quebec	Ontario	Western Provinces	Canada <sup>1</sup>
	(millions of dollars)				
Federal government	160	124	604	283	1,171
Provincial government <sup>2</sup>	8	31	54	77	170
Business enterprise	22	561	1,533	393	2,518
Higher education <sup>3</sup>	68	234	407	308	1,017
All sectors	258	950	7,598	1,060	4,876
	(percentage of Canada totals)				
Federal government	14	11	51	24	100
Provincial government <sup>2</sup>	5	18	32	45	100
Business enterprise	1	22	61	16	100
Higher education <sup>3</sup>	7	23	40	30	100
All sectors	5	19	53	23	100
	(percentage of regional totals)				
Federal government	62	13	23	27	24
Provincial government <sup>2</sup>	3	3	2	7	3
Business Enterprise	9	59	59	37	52
Higher education <sup>3</sup>	26	25	16	29	21
All sectors	100	100	100	100	100
	(percentage of all R&D)				
Federal government	3.3	2.5	12.4	5.8	24.0
Provincial government <sup>2</sup>	0.2	0.7	1.1	1.6	3.5
Business enterprise	0.5	11.5	31.4	8.0	51.6
Higher education <sup>3</sup>	1.4	4.8	8.4	6.3	20.9
All sectors	5.3	19.5	53.3	21.7	100.0

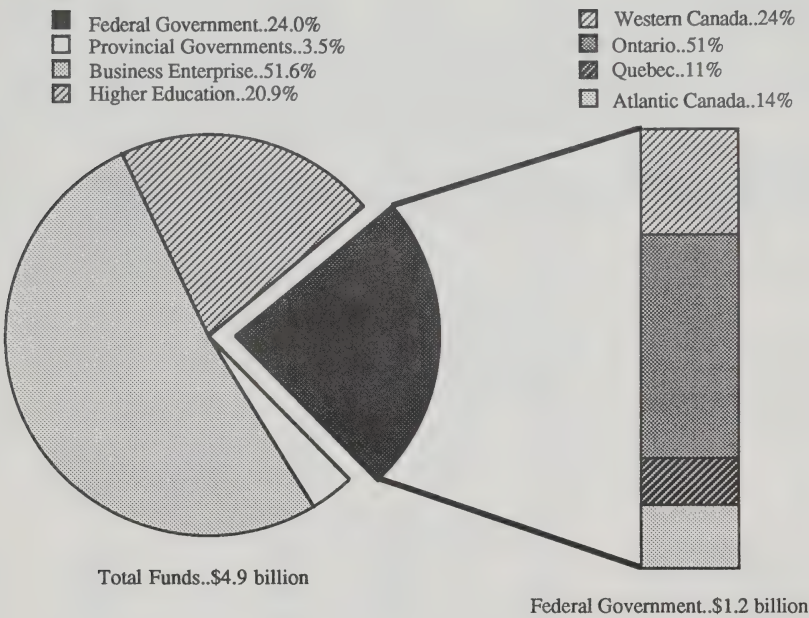
1 Including the Yukon and Northwest Territories.

2 Including provincial research councils and foundations.

3 Including private non-profit institutions.

Source: Statistics Canada, Science Statistics, June, 1985.

DISTRIBUTION OF R&D BY PERFORMING SECTOR: 1983



Source: Statistics Canada, Science Statistics.

4 INDUSTRIAL R&D IN CANADA

Throughout the industrialized world, technology-intensive industries provide a principal thrust for economic growth. A 1984 study by the Organization for Economic Cooperation and Development (OECD) found that in advanced industrial economies, of the seven fastest-growing industries, four were high research-intensive, constituting, requiring and benefiting from high levels of R&D. The three others were found to be medium to high in research intensity (measured by R&D expenditure as a percentage of total value of output).

TABLE 19  
PERCENTAGE DISTRIBUTION OF REAL-OUTPUT  
IN MANUFACTURING INDUSTRIES 1972-82

	<u>1972</u>	<u>1976</u>	<u>1980</u>	<u>1982</u>
High technology industries	17.8	18.0	21.0	21.0
Other manufacturing industries	82.2	82.0	79.0	79.0
TOTAL manufacturing	100	100	100	100

Source: Office of Industrial Innovation, DRIE.

Table 19 indicates the percentage distribution of real output in Canadian manufacturing industries, high-tech and others. High technology industries are identified on the basis of their ratio of R&D to sales. Industries included in this category were those whose R&D ratios were greater than the average for all manufacturing industries between 1975 and 1982. As the table indicates, higher technology firms increased their share of real manufacturing output (in constant 1971 dollars) from 17.8 percent to 21 percent between 1972 and 1982. Tables 20 and 21 show the proportion of Canada's manufactured products exported according to technology level (R&D intensity) and the proportion of goods exported in the high-technology grouping.

While real output per person increased in all manufacturing sectors during the period in question, the increase was much greater in high technology than other manufacturing industries. Between 1972 and 1982, real output per person increased by a total of 16.75 percent in high-technology industries as opposed to 9 percent for non-research intensive industries. For all manufacturing industries, real output per person increased by 10.5 percent during the period.

TABLE 20  
EXPORTS OF MANUFACTURED PRODUCTS BY TECHNOLOGY GROUP  
(percent of total)

	<u>High</u>	<u>Medium</u>	<u>Low</u>	<u>Resource Related</u>	<u>Motor Vehicles</u>
1968	14	5	13	39	30
1975	14	7	14	34	31
1984	15	8	12	27	38

Source: Statistics Canada, Science and Technology Indicators, 1985.

TABLE 21  
EXPORTS OF HIGH-TECHNOLOGY PRODUCTS, BY PRODUCT GROUP  
(percent of total)

	<u>Chemicals</u>	<u>Office machinery</u>	<u>Other machinery</u>	<u>Aircraft and parts</u>	<u>Electrical products</u>	<u>Scientific instruments</u>
1968	13	4	25	30	20	8
1975	15	9	37	15	16	8
1984	20	18	12	16	25	9

Source: Science and Technology Indicators, 1985.

Total intramural expenditures on R&D in Canada are shown in Table 22. A more precise picture of the status of research and development undertaken in Canada can be obtained in a sectoral disaggregation of R&D data based on intramural R&D expenditures and the number of R&D performers in an industry.

TABLE 22  
CURRENT INTRAMURAL R&D EXPENDITURE, ALL INDUSTRIES, 1978-86  
(\$ millions)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985*</u>	<u>1986*</u>
Total, all industries	886	1,074	1,358	1,847	2,156	2,253	2,452	2,811	3,037

\* estimate

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

4.1 Sectoral Distribution of R&D4.1.1 Energy

Canada has benefitted from extensive reserves of natural resources which have stimulated the development of world-class technologies in offshore and cold-weather production structures and systems, enhanced recovery techniques and heavy oils, pipeline instrumentation, slurry pipelines, remote sensing and automated mining techniques. The CANDU system is also recognized as one of the world's safest nuclear reactors.

In 1984, 47 R&D performers undertook expenditures of \$114 million. Atomic Energy of Canada, which conducts almost 90 percent of Canadian atomic energy research saw its expenditures on R&D rise from \$114 million in 1982-83 to \$130.2 million in 1984-85.

TABLE 23  
CURRENT INTRAMURAL R&D EXPENDITURES, ENERGY 1978-86

	(\$ millions)								
	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985*</u>	<u>1986*</u>
Mines	17	19	25	48	44	39	43	45	47
Gas and oil wells	28	28	42	46	52	33	50	52	53
Total	45	46	67	93	96	71	93	97	100

\* estimate

Source: Statistics Canada, Industrial Research and Development Indicators, 1985.

TABLE 24  
ATOMIC ENERGY OF CANADA LTD., R&D EXPENDITURES, 1979-85

	(\$ millions)					
	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>	<u>1984-85</u>
R&D Expenditures	74.5	78.8	90.7	114.1	122.8	148.1

Source: Statistics Canada, Federal Science Activities, 1984-85.

TABLE 25  
DISTRIBUTION OF R&D PERFORMERS, ENERGY, 1984

	<u>SIC</u> <sup>1</sup>	<u>Firms in SIC</u> <sup>2</sup>
Mines and wells total number of firms 47		
Mines total number of firms 26		
Copper and copper-zinc mines	0612	1
Nickel-copper mines	0613	2
Silver-lead-zinc mines	0614	2
Uranium mines	0616	2
Iron mines	0617	1
Other metal mines	0619	2
Asbestos mines	0621	2
Peat industry	0622	2
Potash mines	0624	1
Other non-metal mines (except coal)	0629	2
Bituminous coal mines	0631	3
Other service industries incidental to mining	0929	6
Gas and oil wells total number of firms 21		
Conventional crude oil and natural gas	0711	16
Contract drilling oil and gas industry	0911	2
Other service industries incidental to crude petroleum and natural gas	0919	2

1 Standard Industrial Classification, Manual, 1980.

2 Individual firms may be counted more than once.

Source: Statistics Canada, Industrial Research and Development Indicators, 1984.

#### 4.1.2 Wood-based Sector

As the world's largest exporter of lumber newsprint and pulp, Canada has well-established wood-based industries which are characterized by extensive R&D. This has contributed to the application of microelectronics to processing and manufacturing systems, to the development of pollution abatement techniques and to new product development such as liquid fuels.

Thirty-four R&D performers spent \$73 million in R&D expenditures in 1984.



TABLE 26  
CURRENT INTRAMURAL R&D EXPENDITURES,  
WOOD-BASED INDUSTRIES, 1978-86

(\$ millions)

	1978	1979	1980	1981	1982	1983	1984	1985*	1986*
Wood-based Industries	36	53	66	87	86	71	81	97	103

\* estimate

Source: Statistics Canada, Industrial Research and Development Indicators, 1984

TABLE 27  
DISTRIBUTION OF R&D PERFORMERS, WOOD-BASED INDUSTRIES, 1984

	<u>SIC</u> <sup>1</sup>	<u>Firms in SIC</u> <sup>2</sup>
Wood Based total number of firms 34		
Wood total number of firms 8		
Forestry services industry	0511	1
Softwood veneer and plywood industry	2522	1
Wooden door and window industry	2543	2
Other millwork industry	2349	1
Other wood industries	2599	3
Pulp and paper total number of firms 26		
Pulp industry	2711	8
Newsprint industry	2712	8
Building board industry	2714	1
Other paper industries	2719	2
Folding carton and set-up box industry	2731	2
Paper bag industry	2733	2
Other converted paper products industries	2799	3

1 Standard Industrial Classification, Manual, 1980.

2 Individual firms may be counted more than once.

Source: Statistics Canada, Industrial Research and Development Indicators, 1984

#### 4.1.3 Food and Chemicals

Canada's chemical-based industry is centered around petrochemicals, alcohols, fertilizers and basic inorganic and organic chemicals. The various related industries supported 293 R&D performers with expenditures totalling \$378 million. This figure climbed sharply in 1984 to \$403 million, but levelled off in 1985 at a projected level of \$408 million.

TABLE 28  
CURRENT INTRAMURAL R&D EXPENDITURES,  
CHEMICAL-BASED INDUSTRIES, 1978-86

(\$ million)

	1978	1979	1980	1981	1982	1983	1984	1985*	1986*
Food, beverages and tobacco	31	36	45	51	63	68	67	69	70
Rubber and plastic products	10	13	14	18	18	16	16	18	19
Textiles	5	7	9	11	14	13	14	13	13
Refined petroleum and coal products	63	78	126	233	175	143	134	164	176
Drugs and medicines	26	30	38	44	51	58	54	67	73
Other chemical products	50	61	74	89	109	112	123	139	150
TOTAL	185	225	306	446	430	410	408	470	501

\* estimate

Source: Statistics Canada: Industrial Research and Development Indicators, 1984

TABLE 29  
DISTRIBUTION OF R&D PERFORMERS, CHEMICAL-BASED INDUSTRIES, 1984

	SIC <sup>1</sup> 290	Firms in SIC <sup>2</sup>
Food, beverages and tobacco (including agriculture, fishing, trapping) - total number of firms 94		
Cattle farms	0112	1
Forage, seed and hay farms	0135	1
Other vegetable farms	0152	1
Greenhouse products	0162	1
Other horticultural specialties	0169	1
Farm animal breeding services (except poultry)	0212	1
Poultry services	0213	3
Harvesting, bailing and threshing services	0223	1
Other services incidental to agricultural crops	0229	1
Other services incidental to agriculture n.e.c.	0239	3

1 Standard Industrial Classification, Manual, 1980

2 Individual firms may be counted more than once.

	SIC	Firms in SIC
Services incidental to fishing	0321	1
Meat and meat products industry (except poultry)	1011	5
Poultry products industry	1012	1
Fish products industry	1021	4
Canned and preserved fruit and vegetable industry	1031	6
Fluid milk industry	1041	2
Other dairy products industries	1049	6
Cereal grain flour industry	1051	1
Prepared flour mixes and prepared cereal foods industry	1052	3
Feed industry	1053	2
Vegetable oil mills (except corn oil)	1061	1
Biscuit industry	1071	1
Bread and other bakery products industry	1072	3
Cane and beet sugar industry	1081	2
Chewing gum industry	1082	1
Dry pasta products industry	1092	1
Malt and malt flour industry	1094	1
Other food products industries n.e.c.	1099	23
Distillery products industry	1121	2
Brewery products industry	1131	3
Wine industry	1141	5
Tobacco products industry	1221	5
Rubber and plastic products - total number of firms 36		
Tire and tube industry	1511	2
Rubber hose and belting industry	1521	1
Other rubber products industries	1599	6
Foamed and expanded plastic products industry	1611	2
Plastic pipe and pipe fitting industry	1621	2
Plastic film and sheeting industry	1631	1
Plastic bag industry	1691	1
Other plastic products industries n.e.c.	1699	21
Textiles - total number of firms 16		
Man-made fibre and filament yarn industry	1811	2
Wool yarn and woven cloth industry	1821	4
Other spun yarn and woven cloth industries	1829	2
Natural fibres processing and felt products industries	1911	2
Canvas and related products industry	1931	1
Hygiene products of textile materials industry	1994	1
Tire cord fabric industry	1995	1
Other textile products industry n.e.c.	1999	3

Refined petroleum and coal products - total number of firms 10		
Refined petroleum products industry (except lubricating oil and grease)	3611	2
Lubricating oil and grease industry	3612	1
Petroleum extracting, refining and distributing	3617	5
Other petroleum and coal products industries	3699	2
Drugs and medicines - total number of firms 32		
Pharmaceutical and medicine industry	3741	32
Other chemical products - total number of firms 102		
Industrial inorganic chemical industries n.e.c.	3711	15
Industrial organic chemical industries n.e.c.	3712	7
Chemical fertilizer and fertilizer materials industry	3721	1
Other agricultural chemical industries	3729	7
Plastic and synthetic resin industry	3731	7
Paint and varnish industry	3751	15
Soap and cleaning compounds industry	3761	7
Toilet preparations industry	3771	4
Printing ink industry	3791	3
Adhesives industry	3792	5
Other chemical products industries n.e.c.	3799	31

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

#### 4.1.4 Fabricated Materials

Canada's abundant supply of raw materials has been the foundation of the fabricated materials industry. Availability of resources and accessibility to nearby US markets have been combined with sophisticated aluminum and metal rolling, casting and extending techniques.

Research and development successes have occurred in the areas of pollution abatement, energy-efficient process equipment and industrial hygiene equipment. Such activity was completed by 112 performers in 1984, accounting for \$122 million.

TABLE 30  
CURRENT INTRAMURAL R&D EXPENDITURES, FABRICATED MATERIALS, 1978-86  
(\$ millions)

	1978	1979	1980	1981	1982	1983	1984	1985*	1986*
Primary metals (ferrous)	16	18	20	22	22	21	27	25	26
Primary metals (non-ferrous)	45	50	61	70	76	77	86	97	105
Metal fabricating	9	12	13	18	25	24	21	22	22
TOTAL	70	80	94	110	123	122	134	144	153

\* estimate

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

TABLE 31  
DISTRIBUTION OF R&D PERFORMERS, FABRICATED MATERIALS, 1984

	<u>SIC</u> <sup>1</sup>	<u>Firms in SIC</u> <sup>2</sup>
Metals total number of firms 112		
Primary metals (ferrous) - total number of firms 13		
Steel foundries	2912	8
Steel pipe and tube industry	2921	1
Iron foundries	2941	4
Primary metals (non-ferrous) - total number of firms 11		
Primary production of aluminium industry	2951	2
Other primary smelting and refining of non-ferrous metal industries	2959	2
Aluminium rolling, casting and extruding industry	2961	1
Copper and copper alloy rolling, casting and extruding industry	2971	1
Other rolled, cast and extruded non-ferrous metal products industries	2999	5
Metal fabricating - total number of firms 88		
Power boiler and heat exchanger industry	3011	5
Other fabricated structural metal products industry	3029	3
Metal door and window industry	3031	6
Prefabricated portable metal buildings industry	3032	1
Other ornamental and architectural metal products industries	3039	3
Metal closure and container industry	3042	2
Other stamped and pressed metal products industries	3049	13
Other wire products industries	3059	2
Basic hardware industry	3061	3
Metal dies, moulds and patterns industries	3062	3
Hand tool and implement industry	3063	4
Other hardware and cutlery industries	3069	2
Heating equipment industry	3071	15
Machine shop industry	3081	9
Metal plumbing fixtures and fittings industry	3091	5
Metal valve industry	3092	2
Other metal fabricating industries n.e.c.	3099	10

1 Standard Industrial Classification, Manual, 1980.

2 Individual firms may be counted more than once.

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.



## 4.1.5 Machinery and Transportation Equipment Manufacturing

Canada's machinery industry is a strong supplier of custom-engineered equipment and a contributor to world-class standards of technology. In the transportation sector, for example, Canadians have been at the forefront in the application of robotics to manufacturing. Advanced Turbofan aircraft engines, which improve fuel consumption, were also developed in Canada. During 1984, over 170 performers devoted \$407 million to R&D efforts. The 14 aircraft and parts manufacturers accounted for over 60 percent of this amount.

TABLE 32  
CURRENT INTRAMURAL R&D EXPENDITURES  
MACHINERY AND TRANSPORTATION EQUIPMENT MANUFACTURING, 1978-86

(\$ millions)

	1978	1979	1980	1981	1982	1983	1984	1985*	1986*
Machinery (excluding electronics)	35	45	56	72	79	76	67	62	60
Aircraft and parts	127	146	157	238	271	266	266	319	358
Other transportation equipment	28	38	45	62	66	79	74	74	81
TOTAL	190	229	258	372	416	421	407	455	499

\* estimate

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

TABLE 33  
DISTRIBUTION OF R&D PERFORMERS,  
MACHINERY AND TRANSPORTATION EQUIPMENT MANUFACTURING, 1984

	SIC <sup>1</sup>	Firms in SIC <sup>2</sup>
Machinery and Transportation Equipment - total number of firms 177		
Machinery (excluding electronic) - total number of firms 128		
Agriculture implement industry	3111	25
Commercial refrigeration and air conditioning equipment industry	3121	6
Compressor, pump and industrial fan industry	3191	5
Construction and mining machinery and materials handling equipment industry	3192	17



	<u>SIC</u>	<u>Firms in SIC</u>
Sawmill and woodworking machinery industry	3193	1
Turbine and mechanical power transmission equipment industry	3194	3
Other machinery and equipment industries n.e.c.	3199	71
Aircraft and parts - total number of firms 14		
Aircraft and aircraft parts industry	3211	14
Other transportation equipment - total number of firms 35		
Motor vehicle industry	3231	4
Truck and bus body industry	3241	1
Commercial trailer industry	3242	1
Motor vehicle engine and engine part industry	3251	2
Motor vehicle wiring assemblies industry	3252	2
Motor vehicle wheel and brake industry	3255	2
Other motor vehicle accessories, parts and assemblies industries	3259	12
Railroad rolling stock industry	3261	5
Shipbuilding and repair industry	3271	2
Boatbuilding and repair industry	3281	4

1 Standard Industrial Classification, Manual, 1980

2 Individual firms may be counted more than once.

Source: Statistics Canada: Industrial Research and Development Indicators, 1984

#### 4.1.6 Other Manufacturing

Eighty-three other manufacturing industries, which include non-metallic mineral products, dedicated \$25 million to R&D in 1984.

TABLE 34  
CURRENT INTRAMURAL R&D EXPENDITURES, OTHER MANUFACTURING, 1978-86  
(\$ millions)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985*</u>	<u>1986*</u>
Other manufacturing industries	4	5	8	16	25	16	14	14	14
Non-metallic mineral products	5	6	7	8	8	9	11	13	14
TOTAL	9	11	15	24	33	25	25	27	28

\* estimate

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

TABLE 35  
DISTRIBUTION OF R&D PERFORMERS, OTHER MANUFACTURING, 1984

	<u>SIC</u> <sup>1</sup>	<u>Firms in</u> <u>SIC</u> <sup>2</sup>
Other Manufacturing - total number of firms 83		
Non-metallic mineral - total number of firms 14		
Clay products industry (from domestic clay)	3511	2
Clay products industry (from imported clay)	3512	1
Hydraulic cement industry	3521	3
Other concrete products industries	3549	2
Primary glass and glass containers industry	3561	1
Glass products industry (except glass containers)	3562	1
Refractories industry	3591	1
Gypsum products industry	3593	1
Non-metallic mineral insulating materials industry	3594	2
Other manufacturing - total number of firms 69		
Footwear industry	1712	3
Womens sportswear industry	2442	1
Foundation garment industry	2496	1
Other clothing and apparel industries n.e.c.	2499	1
Upholstered household furniture industry	2612	2
Other household furniture industries	2619	1
Metal office furniture industry	2641	1
Other office furniture industry	2649	1
Bed spring and mattress industry	2691	1
Other furniture and fixture industries n.e.c.	2699	1
Business forms printing industry	2811	1
Other commercial printing industries	2819	6
Platemaking, typesetting and bindery industries	2821	3
Book publishing industry	2831	1
Jewellery and silverware industry	3921	1
Precious metal secondary refining industry	3922	1
Sporting goods industry	3931	6
Toys and games industry	3932	2
Sign and display industry	3971	4
Broom, brush and mop industry	3991	1
Floor tile, linoleum and coated fabric industry	3993	2
Other manufactured products industries n.e.c.	3999	28

1 Standard Industrial Classification, Manual, 1980

2 Individual firms may be counted more than once.

Source: Statistics Canada, Industrial Research and Development Indicators, 1984.

4.1.7 Electrical and Electronic Products

Telecommunications is by far the strongest performer in this sector. Canadian involvement in the communications sector can be traced back to the invention of the telephone in Brantford, Ontario. Today, Canadian telecommunications digital switching equipment is recognized as the industry standard. The communications equipment industry group has an active research and development component, which in 1984 consisted of 15 performers with expenditures of \$423 million.

TABLE 36  
CURRENT INTRAMURAL R&D EXPENDITURES,  
COMMUNICATIONS AND ELECTRICAL PRODUCTS, 1978-86

	(\$ millions)								
	1978	1979	1980	1981	1982	1983	1984	1985*	1986*
Telecommunications equipment	109	132	161	222	293	359	423	532	596
Electronics parts and components	25	26	27	39	55	51	51	57	67
Other electronic equipment	27	36	45	63	88	104	124	147	153
Business machines	20	32	52	70	103	115	137	157	170
Scientific and professional equipment	10	13	17	17	20	23	27	34	34
Other electrical equipment	4	5	8	16	25	16	14	14	14
TOTAL	195	244	310	427	584	668	775	941	1034

\* estimate

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

TABLE 37  
DISTRIBUTION OF R&D PERFORMERS, COMMUNICATIONS  
AND ELECTRICAL PRODUCTS, 1984

	SIC <sup>1</sup>	Firms in SIC <sup>2</sup>
Electrical and Electronic Products total number of firms		239
Telecommunications equipment total number of firms		15
Telecommunications equipment industry	3351	15
Electronics parts and components total number of firms		34
Electronic parts and components industry	3352	34

1 Standard Industrial Classification, Manual, 1980

2 Individual firms may be counted more than once.

	<u>SIC</u>	<u>Firms in SIC</u>
Other electronic equipment total number of firms 52		
Other communication and electronic equipment industry	3352	52
Business machines total number of firms 38		
Electronic computing and peripheral equipment industry	3361	28
Electronic office, store and business machine industry	3362	5
Other office, store and business machine industry	3369	5
Scientific and professional equipment total number of firms 41		
Indicating, recording and controlling instruments industry	3911	13
Other instruments and related products industry	3912	22
Ophthalmic goods industry	3914	6
Other electrical equipment total number of firms 59		
Small electrical appliance industry	3311	1
Major appliance industry (electric and non-electrical)	3321	2
Lighting fixture industry	3331	6
Record player, radio and television receiver industry	3341	3
Electrical transformer industry	3371	6
Electrical switchgear and protective equipment industry	3372	3
Other electrical industrial equipment industries	3379	17
Communications and energy wire and cable industry	3381	2
Battery industry	3391	3
Non-current carrying wiring devices industry	3392	1
Other electrical products industries n.e.c.	3399	15

Source: Statistics Canada, Industrial Research and Development Indicators, 1984

#### 4.1.8 Services

The services sector has been a rapidly growing part of the international economy, a trend which is reflected in Canada. Canadian engineering firms have carved an increasingly large share of the international market for engineering and scientific services. Canadian experience in hydroelectric power generation is world-renowned. Expenditures on electrical power research and development grew from \$109 million in 1982 to an anticipated level of \$142 million in 1985. During 1983, the services sector allocated \$367 million to R&D expenditures among 430 performers. The projected 1985 figure for the industry is \$470 million.

TABLE 38  
CURRENT INTRAMURAL R&D EXPENDITURES, SERVICES, 1978-86

	(\$ millions)								
	1978	1979	1980	1981	1982	1983	1984	1985*	1986*
Transportation and other utilities	40	40	46	66	89	93	96	101	108
Electrical power	45	59	70	83	109	105	127	144	138
Computer services	6	8	15	24	31	48	71	78	84
Engineering and scientific services	37	45	64	72	97	125	152	171	194
Other non-manufacturing industries	4	6	12	21	39	45	43	43	84
TOTAL	132	159	207	266	365	416	488	538	571

\* estimate

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

TABLE 39  
DISTRIBUTION OF R&D PERFORMERS, SERVICES, 1984

	<u>SIC</u> <sup>1</sup>	<u>Firms in SIC</u> <sup>2</sup>
Services total number of firms 544		
Transportation and other utilities total number of firms 31		
Non-scheduled air transport, specialty, industry	4513	1
Railway transport industry	4531	3
Freight and passenger water transport industry	4541	2
General freight trucking industry	4561	1
Urban transit systems industry	4571	2
Natural gas pipeline transport industry	4611	4
Grain elevator industry	4711	2
Television broadcasting industry	4812	1
Cable television industry	4814	2
Telecommunication carriers industry	4821	6
Other telecommunication industries	4839	3
Gas distribution systems industry	4921	2
Water systems industry	4931	1
Other utility industries n.e.c.	4999	1
Electric power total number of firms 7		
Electric power systems industry	4911	7

\* Standard Industrial Classification, Manual, 1980

+ Individual firms may be counted more than once.



	<u>Firms in</u> <u>SIC</u>	<u>SIC</u>
Engineering and scientific services total number of firms 276		
Office of architects	7751	3
Office of engineers	7752	78
Other scientific and technical services	7759	195
Computer Services total number of firms 80		
Computer services	7721	80
Other non-manufacturing total number of firms 150		
Other industrial construction	4119	1
Asphalt paving	4216	1
Other size work	4219	1
Glass and glazing work	4233	
Wet heating and air conditioning work	4243	
Electrical work	4261	2
Elevator and escalator installation	4291	2
Other trade work n.e.c.	4299	3
Project management, construction	4411	1
Land developers	4491	1
Fish and seafood, wholesale	5215	2
Other foods wholesale	5219	2
Drug sundries and other drugs and toilet preparations, wholesale	5239	1
Electronic household appliances, wholesale	5412	1
Farm machinery, equipment and supplies, wholesale	5711	1
Mining machinery, equipment and supplies, wholesale	5722	3
Industrial machinery, equipment and supplies, wholesale	5731	1
Electronic machinery, equipment and supplies, wholesale	5743	9
Other electrical and electronic machinery, equipment and supplies, wholesale	5749	4
Office and store machinery, equipment and supplies, wholesale	5791	2
Service machinery, equipment and supplies, wholesale	5792	1
Professional machinery, equipment and supplies, wholesale	5793	2
Other machinery, equipment and supplies n.e.c., wholesale	5799	2
Other paper and paper products, wholesale	5929	1
Seeds and seed processing, wholesale	5932	1
Food (specialty) stores	6012	1
Television, radio and stereo stores	6222	1
Department stores	6411	1
Lawn and garden centres	6522	1
Other retail stores n.e.c.	6599	2
Sales finance companies	7121	1
Investment companies	7214	2
Holding companies	7215	2
Other investment intermediaries	7299	2
Other financial intermediaries	7499	1
Operators of residential buildings and dwellings	7511	1



	<u>Firms in SIC</u>	<u>SIC</u>
Insurance and real estate agencies	7611	1
Management consulting services	7771	15
Other business services n.e.c.	7799	55
Motels	9112	1
Caterers	9214	1
Motion picture laboratories and video production facilities	9613	1
Other motion picture, audio and video services	9619	1
Industrial machinery and equipment rental and leasing	9911	2
Electric motor repair	9941	1
Welding	9942	1
Ticket and travel agencies	9961	1
Other services n.e.c.	9999	7

Source: Statistics Canada: Industrial Research and Development Indicators, 1984.

#### 4.2 Industrial Research Associations

Industrial research associations have generally been established for particular industries to conduct R&D on common problems. Some of these organizations are self-supporting, while others are supported jointly by private companies and government. Details of some of these associations are presented in this section.

The Sulphur Development Institute of Canada is a non-profit association incorporated in Calgary in 1973. It is supported by government and industry, with the principal objective of developing and establishing new uses and existing markets for Canadian sulphur. To this end, it conducts feasibility and research studies for various clients. Additionally, the institute co-ordinates and disseminates technical information on all aspects of sulphur.

The Forest Engineering Institute of Canada was incorporated in 1975 to conduct R&D for the benefit of forest-based industries in the following areas:

- extraction, processing and transportation of wood;
- mechanization of silvicultural operations; and,
- development of new or improved technology for small woodlot operations.

The objective is to improve the overall efficiency of operations associated with wood harvesting and silviculture. Although most of the institute's activities are conducted in response to the needs of the forest industries, it also undertakes specific assignments under contract. Library services are provided to meet the requirements of its R&D program and of member companies' staff. On-line computerized search services of more than 100 databases are available for a variety of subjects. Journals, indexes and patent gazettes are monitored for new patents relating to the mechanization of wood harvesting and silviculture. The library acquires the patent descriptions and classifies them into its existing collection. In 1986, the institute's activities required 59 person-years and cost \$3.7 million.

The Canadian Gas Research Institute at Toronto was incorporated in 1974 as a non-profit association with the objective of performing applied research in response to the needs of the natural gas industry. It is affiliated with the Canadian Gas Association, the national trade organization for the gas industry, and has developed expertise in a number of areas, including low- and medium-temperature heat transfer, combustion analysis and burner design, corrosion and materials research, cathodic protection systems and equipment evaluation. This association required 22 person-years in 1986 with expenditures of \$886,000.

The Centre for Research and Development in Masonry is a non-profit association established in 1979 in Calgary, to promote the advancement of the theory and practice of masonry. It is self-supporting, deriving its revenue from grants-in-aid for research, consulting and testing activity, sales of publications, industrial funding and membership fees. In addition to R&D in masonry, the centre has an information service and dissemination program. State-of-the-art reports and publications devoted to masonry are available from the library of the centre.

The Canadian Plastics Institute is a newly-created independent body established in Toronto by the plastics industry to offer research and development and a technical information service for use in the plastics field. It is the goal of this association to make the Canadian plastics industry more technologically aware in order to be more competitive domestically and internationally. In 1980 the Institute had six staff and a budget of \$573,000. It plans to make available a computerized data base on physical properties, sources and applications of plastic materials to assist the transfer of information to clients.

The Pulp and Paper Research Institute of Canada, founded in 1925, is a non-profit research and educational association supported by the pulp and paper industry and the federal government. The institute maintains laboratories at Pointe-Claire, Quebec, which are provided by the federal government. It also leases facilities at Vancouver, BC from Forintek Canada Corporation. Facilities have also been made available to the institute by McGill University and the University of British Columbia.

R&D programs are focused on a number of areas such as mechanical pulping, chemical pulping and bleaching, papermaking, materials development, environmental science, systems engineering and technological forecasting. The institute also engages in contract R&D work for individual pulp and paper companies and government departments. Other services include library and information services, chemical analysis, computer facilities and physical testing. Students admitted to McGill University are permitted to carry out their thesis work under the direction of institute staff members. A similar postgraduate research program exists in the Department of Chemical Engineering at the University of British Columbia.

It is the largest of the industrial research associations, with a budget of \$19.2 million in 1985, and a staff of 353.

Forintek Canada Corporation is an independent non-profit association founded in 1979 to conduct R&D for the wood products sector of Canada's forest industry. This association has two laboratory facilities, one in Vancouver and the other in Ottawa. Both are involved in R&D areas such as composite products, biotechnology, lumber manufacturing technology, building construction, and wood protection and engineering.

In addition to R&D, Forintek provides education, training and technical services in materials evaluation to industry. Total expenditures in 1985 were \$11.4 million with a staff of 207.

The Welding Institute of Canada (originally the Canadian Welding Development Institute) is an independent non-profit association established in 1973 to provide research and technical assistance to industry. It has two laboratory facilities for metallurgical, fracture, welding process and inspection programs, one at Oakville, Ontario and another at Montreal, Québec. R&D capability exists in areas such as fracture research, weldability of steels, development of advanced welding processes, welding fume research and improving properties of welds. In addition to doing contract R&D, the institute provides education and training programs to industry, and maintains extensive library and technical information resources, with documents from the International Institute of Welding Commissions. The institute had a staff of 44 and a budget of \$2.4 million in 1985.

## 5 CRITICAL MASS

### 5.1 What Is It?

Threshold technologies are increasingly more complex and more integrated with one another, and require research across a broad range of disciplines. As a result, development of these technologies is more costly and requires diverse resources, of which a broad range of scientific personnel is one component. Hence advanced technology industries tend to locate in "critical mass" areas.

In the high-technology industries, a critical mass consists of a force of qualified personnel, located close to an institute of higher education of good reputation, surrounded by sources of capital and entrepreneurs of high-risk ventures situated at one location, all coming together with sufficient potential to begin creating and establishing high-technology enterprises.

### 5.2 Prerequisites For Critical Mass

The primary requisite to create a critical mass is a motivated, highly-educated and qualified labour force and business community, willing to undertake high risks in the field. Second, there must be an atmosphere of higher learning and a willingness on the part of a university or college to actively participate with industry and talented individuals in research. A third factor is a supportive environment in which government, industry and qualified personnel are willing to undertake high-risk ventures. This would include the establishment of laboratories and the creation of incentives, write-offs and other tax breaks to help alleviate the high risks and costs of high-tech research. Fourth, there must be an adequate source of capital and entrepreneurial spirit. This must be combined with experienced and talented risk-taking managers who understand the nature of the industry and who are capable of guiding a company from its embryonic state to its limits of growth within a short period.



### 5.3 How it is Reflected in Canada

One example is the National Capital Region - Ottawa and its satellite cities of Gloucester, Nepean and Kanata. Ottawa, building on the success in the 1950s of such firms as Bell-Northern Research and Mitel, has become "Silicon Valley North" with more than 400 high-tech firms (12 new high-tech manufacturing companies and 60 new sales and service companies have recently been established). Carleton University and the University of Ottawa, two first-class institutions with excellent scientific and technical capabilities, support the area's microelectronics industry. The universities and federal government ensure an excellent supply of qualified scientific and managerial personnel which has attracted high-risk capital and similarly qualified entrepreneurs.

Another example is Calgary, with at least 150 high-tech companies. Approximately two-thirds of Alberta's high-tech companies are located there, and one-seventh of the world's seismic industry is based in Calgary. In 1981, the Calgary Research and Development Authority (CRDA) was established. CRDA is a tripartite agency (City of Calgary, Chamber of Commerce and the University of Calgary) with the mandate of diversifying Calgary's economy by fostering the growth and development of a high-technology industry. Calgary's two research parks, one owned by the university and the other by the City of Calgary, help to stimulate the growth of the industry in the area.

### 5.4 Technical Infrastructure

Inherent in the concept of critical mass is a technical infrastructure which is specifically oriented towards high-tech companies. Technical infrastructure must itself be at the cutting edge of technology; otherwise, the companies it supports would be severely disadvantaged. Canadian high-tech companies have access to one of the world's best telecommunication systems, and it is getting better. Canadian communication satellites are among the world's most reliable in orbit. Microwave networks span Canada from coast to coast, and research and production is well underway into the establishment of a fibre-optic communication system which would be capable of moving significantly more data than conventional wired systems and which is imperative in these days of high-speed computer-based communications.

## 6 UNIVERSITY LINKS

### 6.1 Research Capability

A wide variety of research is being carried on in university institutes and laboratories throughout Canada. Part of this program is sponsored by industry, part by government, and part by the universities themselves. In the process, each school has built up a collection of expertise in its chosen fields. The federal government's Natural Sciences and Engineering Research Council (NSERC) produces an annual directory of university research. Several guides to the Canadian university system also exist, the most useful being a 300-page directory of Canadian universities and colleges produced by the Canadian Association of Colleges and Universities, (151 Slater Street, Ottawa, Ontario K1P 5N1) and sold for a small cost. Canadian Research is also a useful source for current research being undertaken and newly developed research capabilities.

SELECTED CRITICAL MASS AREAS IN CANADA

<u>City</u>	<u>Institution</u>	<u>Research</u>
Vancouver	University of British Columbia, British Columbia Institute of Technology, B.C. Research, Forintek, Pulp and Paper Research Institute of Canada	All forms of technical research from pulp and paper innovation to nuclear acceleration and brain scans
Calgary	Calgary Chamber of Commerce, University of Calgary, City of Calgary, Honeywell, Digital, Alta-Can Telecom Inc.	Industrial innovation and development, e.g. seismic technology
Toronto	Ryerson Polytechnical Institute, Northern Telecom, IBM, Hewlett Packard, University of Toronto, Bell Canada, Bell-Northern Research, Spar Aero-space, Esso Research, Sheridan Park Research Centre, Ontario Research Foundation, Xerox Canada, Gulf Canada, Inco, Canadian Industries Ltd.,	Advanced technology education for businesses, ranging from the use of robotics to the application of lasers and fibre optics, integrated circuit design, software development for flexible manufacturing systems, robotics, research on digital switching systems, metal fatigue research and environmental R&D
Kitchener-Waterloo	University of Waterloo, Hewlett Packard, IBM and Digital Equipment	Advanced technical research in most forms of industry at the Research Industrial Park
Ottawa	Bell-Northern Research, Northern Telecom, Gandalf, Cognos, Mitel, Carleton University, University of Ottawa, the National Research Council and other federal government laboratories	Telecommunications, microelectronics
Montreal	National Research Council, Xerox, Labatts, McGill University, Dometar, SNC, Zenon, Lavelin, Alcan, Université de Montréal	Biochemical and genetic engineering, molecular immunology, cell fusion, sectoral research

6.2 The Natural Sciences and Engineering Research Council of Canada

The Government of Canada supports science and engineering in Canadian universities through its program of "Scholarships and Grants in Aid of Research" administered through the Natural Sciences and Engineering Research Council. As well as furthering scientific advance through research support, NSERC aims to ensure the provision of highly-qualified manpower in the Canadian economy. Expenditures for 1986-87 are estimated at over \$300 million, most of which is spent supporting individual and project grants. This represents the major source of funding for pure and applied research in Canadian universities. A significant amount (10 percent of the expenditure) is distributed in the form of "Strategic Grants" which are designed to initiate and accelerate work in areas deemed to be of national concern. Current fields in this category are: biotechnology, communications, industrial materials and processes, computers, energy, environmental toxicology, food agriculture and oceans (see Table 40 below). Besides direct research, NSERC also supports universities and research and development efforts through Research Infrastructure Support, University-Industry Program, Development Grants, General Research Support, and Research Manpower Awards (Scholarships).

TABLE 40  
NUMBER AND AMOUNT (\$000) OF NSERC STRATEGIC GRANTS 1985-86

	<u>Individual grants</u>		<u>Group grants</u>		<u>Equipment grants</u>		<u>Conference grants</u>		<u>Total</u>	
Energy	31	1,497	28	1,919	5	335			64	3,751
Environmental toxicology	22	1,112	25	1,510	3	101	1	9	51	2,731
Oceans	12	590	23	1,875	4	310			39	2,774
Communications and computers	14	878	36	3,880	9	966			59	5,724
Food and agriculture	34	1,459	55	3,400	4	173			93	5,031
Open	16	661	32	2,287	5	280			53	3,228
Biotechnology	24	1,237	36	2,183	3	107			63	3,526
Industrial materials and processes	35	1,582	50	3,198	14	935			99	5,715
TOTAL	188	9,015	285	20,251	47	3,207	1	9	521	32,481

Source: NSERC, Appendix to the Report to the President, 1985-86

Due to NSERC's financial support, a high standard of research facilities and manpower is maintained in Canadian universities. Special funds are earmarked for smaller and isolated universities and for research programs related to Canada's interests in the north in the forest industries.

A major expansion of the NSERC's initiatives at the university-industry interface is the University-Industry Program which consists of four major components: Cooperative R&D Activities, Scholarships and Fellowships, University-Industry Links, and the Canadian Microelectronics Corporation.



Cooperative R&D projects seek to capitalize on new scientific and technological advances made by university researchers which are of significance to a company and close to commercialization. R&D support also allows a company or group of companies to draw on the expertise of a university researcher or group. Support is directed to equipment and facilities used jointly by the university and industrial sectors. Industrial Research Chairs and Senior Industrial Fellowships are intended to encourage a mutually stimulative and productive interchange between universities and industry.

### 6.2.1 University-Industry Affiliations

NSERC's University-Industry Affiliation activities are designed to increase communication between the two sectors by providing financial assistance to universities for the establishment of mechanisms whereby R&D services can be provided to affiliated companies in return for a reasonable membership fee. The programs include companies of all sizes in diverse fields, and seeks to assist researchers to refine their ideas and evaluate their commercial potential. Most projects also include an element of technology transfer. Typical companies involved are those in geophysics, materials manufacturing such as metals, ceramics and polymers, biotechnology and microelectronics.

Table 41 displays the disbursement of funds under NSERC's University-Industry program in 1985-86, excluding scholarships and fellowships.

TABLE 41  
NSERC UNIVERSITY-INDUSTRY PROGRAM IN 1985-86

Industry	Applications		Awards		NSERC	
	Number	\$000	New	On-going	(\$000)	Type
Cooperative R&D projects	72	23,415	42	46	6,995	5,902
Shared equipment and facilities	3	2,743	2	2	511	227
Industrial research chairs	31	21,515	8	5	1,588	865
Affiliations	3	528	1	0	26	20
Workshops and seminars	10	137	8	0	29	21
NSERC visiting fellowships	10	166	20	2	216	183
TOTAL	129	48,504	81	55	9,365	7,220

Source: NSERC, Appendix to the Report to the President, 1985-86.

In addition to the programs listed above, \$2.7 million was also allocated to the Canadian Microelectronics Corporation. Disbursements for the University-Industry Program total \$17.4 million, approximately six percent of NSERC's total funding.

### 6.2.2 The Canadian Microelectronics Corporation

Under NSERC's auspices, the federal government has begun to establish up to 30 university-based centres as a computer-linked nationwide network of design and testing stations for Very Large Scale Integrated (VLSI) circuits.

When these centres are in place, they will permit host universities to participate in a design network leading to the fabrication of prototype microelectronic chips by Canadian manufacturers. These centres will provide computer-aided design workstations linked to a host computer at a coordination centre at Queen's University in Kingston, Ontario. The participating universities will then be able to offer specialized "hands-on" training to undergraduate and postgraduate students in computer science, electrical engineering and physics.

A similar but complementary network has been set up by the Department of Regional Industrial Expansion. Since 1979, seven centres have been established at Dalhousie University and the universities of British Columbia, Alberta, Manitoba, Toronto, Sherbrooke, and Moncton. These centres are funded by the federal government for up to seven years. Their objective is to encourage regional capabilities in the application of microelectronics to industrial processes and products.

Some provincial governments, including Ontario, British Columbia and New Brunswick, are also in the process of establishing microelectronics centres to fulfill the specialized needs of their industries.

### 6.3 University CAD/CAM Centres

A number of universities have established CAD/CAM centres to aid industry in product design. CAD/CAM systems depend on a high-powered computer capable of generating sophisticated graphics which allow the designer to build, on-screen, models of products, which can be tested within the system.

The Canadian Institute of Metalworking (CIM) at McMaster University is one of Canada's leaders in CAD/CAM. With a large staff of experts, and supported by the most modern equipment available, the CIM acts as a training school for upgrading industrial employees, conducts research for industry, assists in the selection of industrial machinery and tools, and prepares software for computer-controlled production machinery.

At the University of New Brunswick, the Manufacturing Technology Centre offers a full CAD/CAM service, including robotics and engineering analysis. It is a direct contractor with industry and has technology transfer as one of its prime goals. The Société de Microélectronique Industrielle de Sherbrooke, at the University of Sherbrooke, is a microelectronic centre with CAD capability, used primarily to design printed circuit boards, hybrid circuits and integrated circuits. Work is performed for the business community and consists of modifications to circuits and machinery, or the development of entirely new products.

The establishment of a CAD/CAM centre at the University of Windsor, Ontario in 1985 will support increased university-industry interaction and cooperation in Canada's fifth largest manufacturing area. Five corporate patrons contributed \$900,000 in funds and equipment to the Centre. They were: Digital Equipment of Canada, Applicon Canada, Chrysler Canada, Valiant Machine and Tool, and General Motors of Canada. The CAD/CAM centre has dramatically improved the university's research facilities and will serve as a source for technology transfer to the local metal-cutting and parts manufacturing industry. The vehicle for the transfer of computer-aided technologies will be the "cooperative joint project" involving interaction among students, faculty and company personnel.

A CAD/CAM centre at Simon Fraser University, at the new Engineering Sciences faculty, brought CAD/CAM to the west coast. All research within the faculty is oriented towards applications, and close ties exist between faculty and industry. The Computer-Aided Design Centre at the Technical University of Nova Scotia includes among its range of services the promotion of CAD/CAM applications, hands-on demonstration and instruction, pay-as-you-use service, R&D and information dissemination. This university offers credit courses in CAD/CAM and is a source of qualified, experienced personnel in the field.

#### 6.4 University Research, Technology and Innovation Centres - Cooperative Programs and Diffusion

Pure scientific research may not lead to commercially successful results, or may remain unknown to firms which could use it. Until the last decade or so, the record of technology transfer in Canada was poor. To offset this, a large number of technology centres were established for a partial listing see Appendix I. In addition to conducting research, technology centres act as an interface between the university and business communities, and a number of cooperative projects have been created as a result. These centres provide technical expertise and innovations to business firms, including contract research. They are particularly well suited to the needs of small- and medium-sized firms which may not be able to afford adequate R&D. Some examples among the many varied undertakings: a joint venture between the University of Guelph and Allelix Inc. to improve canola crops; the creation of a company by L'Institut Armand-Frappier and Lavalin Corp. to preserve food by irradiation; and a cooperative effort between Gaz Metropolitain and Concordia University to develop uses for natural gas and new methods for applying gas to heating use.

Diffusing information has improved through the establishment by universities of industrial innovation centres. Funded in part by provincial governments, these centres assist inventors in marketing their inventions, establishing their own companies and developing entrepreneurial skills. For example, the British Columbia government has a special program to help inventors and researchers on university campuses to become entrepreneurs by preparing business plans, helping with marketing and introducing innovators to investors. Ontario spent approximately \$23 million in 1985 through the University Research Incentive Fund, to which the Province contributes \$1 for each \$2 invested by a private company in a joint venture with an Ontario university.



Canada's eight provincial research organizations sponsor and/or carry out activities concerned with research into products and systems which can best exploit the resources of the individual province and help companies with a need for advanced research. Section 7.4 describes these provincial research organizations in more detail.

The University of Waterloo offers an extensive program to foster research and aid in the diffusion of research results. Waterloo allows its instructors to retain ownership of their own inventions, even if developed on university time. The university has set up several bodies whose function is to transfer technology to the business community. It has an extensive student employment co-operative program which makes on-the-job training part of the curriculum (in 1982, 22 other schools offered the same type of program). It is developing an industrial R&D park on university property to bring business and university staff and students together. Moreover, the school has gone into business for itself selling computer software to industry and other institutions.

Other schools are involved in similar activities: the University of Toronto has been in business since the 1920s. Toronto's Innovations Foundation has as its mandate the transfer of university technology to industry. It takes an active part in companies producing such diverse products as published music, pharmaceuticals and crushed materials. Other schools, including the University of Alberta, University of British Columbia, Queen's University, University of Calgary, and Memorial University have appointed permanent business liaison officers to link university activity in the research area to industry.

University faculty and equipment contribute to the operation of several industry-specific research institutes. While a listing of all types of university-affiliated R&D centres is included in Appendix I, a detailed description of representative institutes follows below.

The Atlantic Industrial Research Institute is an incorporated self-financed institution. The institute performs R&D on a fee-for-service basis in a number of areas, including ceramic materials, coatings (e.g., plasma spray and other techniques) and mechanical properties of wear (e.g., the breakdown of high-speed bearings). The institute, which can draw on the faculty and facilities of the Technical University of Nova Scotia, also conducts tests of engineering materials, as well as preparing and analyzing mineral samples. In 1984, the institute undertook projects requiring 20 person-years, for a total cost of \$410,000.

The Canadian Centre for Advanced Instrumentation, a subsidiary of the Saskatchewan Research Council, was established in 1982. Its objectives are to improve the efficiency, effectiveness and quality of work in industry, government and education through the use of control and measurement instrumentation. The Centre has a range of activities which it provides on a contractual basis, including:

- design and development of innovative instrumentation;
- assembly and marketing of innovative instruments; and,
- maintenance and calibration of commercial instruments.

Le Centre de Développement Technologique is a non-profit industrial research institute established in 1971 in association with the Ecole Polytechnique de Montréal. It provides R&D and testing services to industry and government agencies in the following areas: environment, transportation, energy, communications, design, materials and systems. Total expenditures of the centre are approximately \$2.5 million a year. The Centre has six full-time personnel and professors, research associates and graduate students from the 10 engineering disciplines of the Ecole Polytechnique. This translates into a total of roughly 46 person-years.

The Canadian Institute of Metalworking, established at McMaster University, was originally founded as the Centre for Applied Research and Engineering Design in 1967. It provides services to industry in CAD/CAM. The Institute has offered the following services over the past year:

- computer-aided design, drafting and the generation of numerical control data to manufacture high accuracy aerospace, mould and die components and tooling;
- research, development and production of special purpose software and hardware to address industry requirements;
- field testing, calibration and reporting of machine tool accuracy and alignment using laser interferometry; and,
- training programs for industry using institute or similar equipment.

In 1984 expenditures totalled \$316,000 and involved 19 person-years.

The Atlantic Coal Institute was created in 1980 as a private non-profit corporation with a mandate to promote the technology of coal and related products. The institute conducts contract R&D for the energy industry in the areas of offshore resources, energy processing and fossil fuel technology. Currently, the institute is developing a Fossil Fuel Resource Centre with reports and texts on coal and petroleum resources and extraction. During 1985-86, expenditures totalled \$353,000, requiring 11 person-years.

The Centre for Ocean Engineering (Vancouver) is a division of BC Research, established in 1978 to improve the productivity and efficiency of the Canadian ocean industry by assisting architects and engineers in naval architecture. Essentially, the centre is a ship model testing operation which performs contract R&D and testing for the private sector. It conducts resistance and effective horsepower tests, waste surveys, and sea-keeping and flow-visualization studies.

The Canadian Institute of Fisheries Technology (formerly the Fisheries Research and Technology Laboratory) was established in 1981 when the Department of Industry, Trade and Commerce declared the institution a centre of excellence and began partially funding it. The institute operates under the Faculty of Engineering in the Technical University of Nova Scotia.

It is primarily engaged in contract R&D and in providing technical services to small- and medium-sized firms in the fisheries industry. R&D is conducted in areas such as fisheries engineering, marine oils, protein and fish post-mortem biochemistry, process technology and agriculture. In addition, institute staff teach graduate programs in food science and in engineering. In 1985, total expenditures were \$1.0 million, involving 25 person-years.

The Waterloo Centre for Process Development was established in 1978 as a semi-independent organization, operating in the Chemical Engineering Department of the University of Waterloo. The centre conducts feasibility studies to identify opportunities which will improve existing processes. Training courses and seminars enable individual companies to develop their own in-house expertise. The centre also helps in the planning and execution of mission-oriented research contracts. Principal areas of expertise include:

- biochemical and food engineering;
- computer-aided process control, statistics and mathematical analysis;
- environmental and pollution control;
- electrochemical engineering;
- chemical kinetics, catalysis and reactor design; and,
- polymer service and engineering.

In 1985 expenditures totalled \$1.6 million, requiring 27 person- years.

The Centre for Ocean Technology is a division of the Nova Scotia Research Foundation Corporation. With a staff of 16 professionals and technicians, it carries out a large number of projects for companies and government departments. The projects range from providing technical information and doing feasibility studies to actually carrying out R&D for new products. The principal emphasis of the centre is the development of ocean hardware.

The System Analysis, Control and Design Activity Centre was created in 1973. Housed in the Engineering Science Department of the University of Western Ontario, it is an independent, self-supporting body of the university, providing services to clients in the process industries, particularly those in the pulp and paper industry.

Computer programs for process simulation have been developed and are available through the centre. Custom programs can be developed for clients if the available programs do not cover the areas of simulation or modelling required by the clients. A consulting service is also available to provide necessary technical and engineering information. In 1985, the centre spent \$2 million, involving 24 person-years.



In 1971, the Centre for Powder Metallurgy was instituted in the Ontario Research Foundation (ORF) under the financial sponsorship of the Department of Industry, Trade and Commerce (now the Department of Regional Industrial Expansion). Although the centre has not received direct government funding since 1974, the powder metallurgy activities of ORF have continued in numerous programs undertaken for many Canadian and US companies. The powder metallurgy technology and facilities are augmented by the overall capabilities of ORF, and are available to clients on a fee-for-service basis.

## 7 GOVERNMENT - INDUSTRY INTERFACE

### 7.1 Science and Technology in Government

Total federal expenditures on science and technology were \$4.2 billion in 1985-86, an increase of 2.0 percent over the preceding year. Nearly 20 percent of the government's expenditures went to the human sciences, and the other 80 percent to the natural sciences. The major spenders were the National Research Council (NRC), which, with Agriculture Canada and Energy Mines and Resources, received 30 percent of the total government science budget. This was followed by Environment Canada and NSERC, with approximately 9 percent and 8 percent respectively. A synopsis of federal expenditures is shown in Figure 3.

#### 7.1.1 The Ministry of State for Science and Technology

The Ministry of State for Science and Technology, created in 1971, encourages the development and use of science and technology in support of national goals through the formulation and development of appropriate policies. Grants-in-aid for university research, awarded by NSERC, the Medical Research Council and the Social Sciences and Humanities Research Council, express a policy aimed at generating and maintaining national research capability.

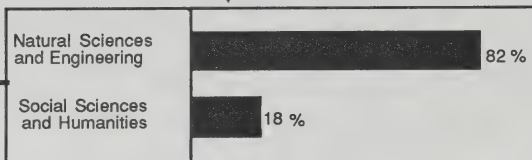
Policies are also needed to help Canada achieve non-scientific aims using scientific tools. The maintenance of research laboratories by science-based government departments such as Energy, Mines and Resources, National Health and Welfare, Agriculture, and Environment Canada and their contracting-out policy are expressions of this aspect of science policy.

The integration of science into public policy formulation is the third element of science policy. In order to bring science into policy, the government of Canada is recruiting both natural and social scientists into the federal public service at the policy-making level, and consulting the scientific community.

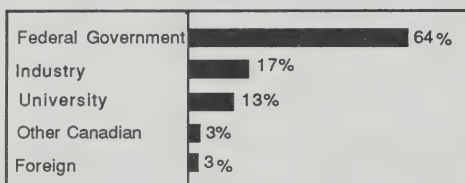
# Distribution of Federal Expenditures on Science and Technology

1985 - 1986

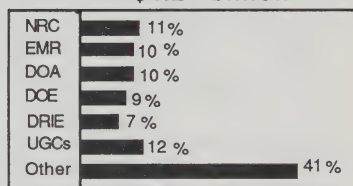
## By Type of Science \$ 4.2 billion



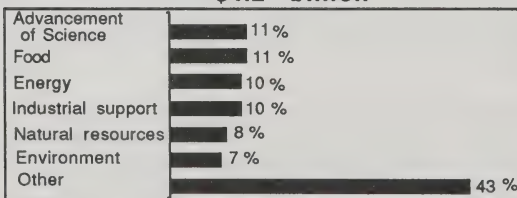
## By Performer \$4.2 billion



## By Department <sup>(1)</sup> \$4.2 billion



## By Area of Application \$4.2 billion



(1)

NRC = National Research Council

EMR = Energy, Mines and Resources

DOA = Agriculture

DOE = Environment

DRIE = Regional Industrial Expansion

UGCs = University Granting Councils (total for Medical Research Council, Natural Sciences and Engineering Research Council and Social Sciences and Humanities Research Council)

Source: Statistics Canada, Federal Scientific Activities, 1985-1986.

### 7.1.2 The Science Council of Canada

The Science Council of Canada is a science policy research institute established to advise the federal government and the Canadian public on problems and opportunities in Canadian science and technology. It publishes results of research in key areas of national science and technology policy and disseminates them to government, industry, and academic policy makers, and (increasingly) to the public, through the mass media. The council consists of up to 30 eminent individuals - mostly industrialists or academics - appointed by order in council, who meet four times yearly to plan, evaluate and approve the output from the council's research program. The projects are carried out by a staff located in Ottawa. Publications by the Science Council to date include council positions on the impact of microtechnology on society and Canada's potential scientific and technological contribution to the food supply of developing countries. Background studies now number more than 50, including recent papers on Canadian involvement in international science and world food aid, and the requirements of Canada's manufacturing sector.

### 7.1.3 The National Research Council

The National Research Council (NRC) is an independent research agency established by Parliament to promote scientific and engineering research in furthering Canadian development. Its activities include: basic and exploratory research in the natural sciences; research on long-term problems of national concern such as energy, food, transportation, building and construction; research in direct support of industrial innovation and development; research to provide technological support of social objectives; the development and management of major national facilities; and research and services related to standards. These activities are carried out through in-house research programs, both internally generated and in response to requests from industry; through contracts with industry and universities; through financial contributions to industrial research laboratories; and through a technical information service for Canadian industry. The Canada Institute for Scientific and Technical Information plays a key role in facilitating the use of scientific and technical information by the government and people of Canada.

In the area of energy, the NRC has responsibility for co-ordinating all federal R&D activities in renewable energy resources - solar, wind, biomass, hydraulic and geothermal. In addition, the NRC is responsible for research programs on energy conservation in buildings, energy conversion and storage, the development of energy-conserving heat pumps, fundamental studies of nuclear fusion, and a number of smaller programs.

In November 1985, the NRC announced a four-year plan (1986 through 1990) aimed at making the council as much a part of the industrial community as it is of the scientific community.

NRC contributions to industry have been expanded to include such efforts as marketing studies for companies contemplating new products. The council has established a Technology Assessment Office to identify developing technologies and opportunities for their application. The council has also set up a Technology Co-ordination Centre to promote collaboration of the NRC, industries and universities.

The National Research Council will implement a major internal restructuring. NRC research facilities will be concentrated into larger units which then will be able to focus more effort on a smaller number of activities. More staff exchanges will be encouraged, sending NRC scientists to private-sector facilities and bringing industry experts to NRC labs. The Technology Assessment Office will solicit and evaluate information from Canadian scientists and engineers who will be encouraged to increase their knowledge of technology in other nations. The Council's Industry Development Office will also post technology observers to foreign countries.

In 1985-86 the NRC had a scientific and technical staff of 3,400 and a budget of \$279 million.

#### 7.1.3.1 Industrial Research Assistance Program (IRAP)

NRC facilities will be more effective at the business of technology transfer under the new restructuring. The Industrial Research Assistance Program (IRAP) will continue to be a prominent source of support for technology transfer. Administered by the NRC, IRAP aims to improve the performance of mainly small- and medium-sized enterprises, and to promote industrial growth, new jobs and greater productivity. IRAP also assists companies in new product development and in the modification of existing processes. The 1985-86 budget for the IRAP program is approximately \$44 million. Two of IRAP's information services, the Field Advisory Service and the Technical Information Service, are discussed below.

### 7.2 Scientific and Technological Information

Sources of scientific and technological (S&T) information might be classified into two main groups and a number of subgroups. Libraries would form the first category, and could be subdivided into sectors such as colleges and universities, the federal government, provincial governments, provincial research organizations, industrial R&D and technology institutes, and private corporations. The second main group would be S&T service centres. Most of these centres have libraries, but would be considered to be in the second category when the non-library information aspect is predominant (e.g., provincial research organizations). This group could also be divided into centres at universities and colleges, federal government departments, provincial government departments, provincial research organizations, industrial R&D and technology institutes, and commercial S&T service establishments.



## 7.2.1 The Canada Institute for Scientific and Technical Information (CISTI)

The Canada Institute for Scientific and Technical Information (CISTI), a part of the NRC, provides a wide range of information services to government, industry and university, including access to the world's published scientific literature and to computerized databases. Of its loans of books, conference proceedings, and photocopies of journal articles, roughly 50 percent are provided to business firms, 30 percent to government organizations; and 20 percent to universities.

About 90 percent of all requests made to CISTI for information are now satisfied through one method or another. CISTI handled 381,983 document deliveries and conducted 320,000 database searches during 1983-84.

Over the past few years, new techniques have been developed to facilitate access to information at CISTI and at other co-operating institutes. For example, an on-line computerized system for search and retrieval of bibliographic references, CAN/OLE (Canadian On-Line Enquiry System), has been in operation since 1974. This system permits a client at a computer terminal anywhere in Canada to request a copy of documents contained in CISTI's current lists and databases, and to perform searches of the S&T literature for publications in all major fields of science and technology.

CISTI also operates the Canadian Scientific Dissemination of Information service (CAN/SDI), which provides individualized information services for scientists by regularly searching current bibliographic data bases. In addition, the Scientific Numeric Data Bases services (CAN/SND) provides on-line access to crystallographic and infrared spectra data acquired from various research organizations, and allows accessors to use computer programs to retrieve and perform calculations on the data.

### 7.2.2 The Field Advisory and Technical Information Services

Two components of the Industrial Research Assistance Program (IRAP), the Field Advisory Service and the Technical Information Service, provide information services to industry.

The Field Advisory Service has officers stationed in 25 locations across Canada. These officers are either NRC employees or designated employees of provincial research organizations partially supported by NRC. They provide information and guidance in industrial engineering methods and techniques to improve the effectiveness of company functions and production operations. They also assist companies to gain access to other types of assistance offered by the NRC and other federal departments.



The Technical Information Service, in existence for 35 years, is the central advisory service located in Ottawa. The service is staffed by a team of experienced scientists and engineers with expert knowledge of NRC and other federal departments and agencies. The service is used by small- and medium-sized businesses with few or no technical library facilities, and by larger firms to keep their technical staff informed of the latest technological developments. This group and the Field Advisory Service receive between 20,000 and 25,000 enquiries annually from 15,000 to 20,000 firms.

### 7.2.3 Scientific Periodicals

The NRC also edits and publishes 12 world-class scientific periodicals. The Canadian Journals of Research have been publishing the research results of Canadian and non-Canadian scientists since 1929. There are now 12 journals:

Canadian Journal of Botany  
Canadian Journal of Zoology  
Canadian Journal of Microbiology  
Canadian Journal of Biochemistry and Cell Biology  
Canadian Journal of Chemistry  
Canadian Journal of Physics  
Canadian Journal of Earth Sciences  
Canadian Journal of Physiology and Pharmacology  
Canadian Journal of Forest Research  
Canadian Journal of Genetics and Cytology  
Canadian Geotechnical Journal  
Canadian Journal of Civil Engineering

### 7.2.4 Patent Office

The responsibility of the Patent Office of Consumer and Corporate Affairs is to acquire and disseminate technological information and to encourage invention and innovation in Canada. In addition to granting and maintaining patents, the Patent Office provides a number of services. It publishes the Patent Office Record, a weekly report which provides information concerning Canadian patents issued during the week. It maintains a search room and library for use by the public, and an advisory service to provide technological information to those interested.

The Patent Office is currently implementing its new Patent Information Exploitation (PIE) program. Under this program, research organizations and research funding agencies will be offered patent information services specifically designed to help plan, guide, and enhance R&D activities. As well, new services will be made available to the business community - services which are intended to stimulate industrial innovation by ensuring that a wide range of recently patented technology, emanating from around the globe, is transferred rapidly to local industries. Furthermore, under the PIE program the Patent Office will, in response to specific requests by government departments, assess the current state of technology and forecast technological trends based upon information contained in patent documents.

### 7.3 Federal Laboratories

Canada's federal laboratories are justly proud of their long tradition of excellence and innovation. Government-sponsored agricultural research played a key role in the settlement of the Canadian west. Defence research during World War II, and later research into peacetime nuclear applications, helped establish Canada as an international scientific presence. The tradition continues today. In scores of large and small federal laboratories, some 6,000 scientists, assisted by 11,000 support staff, are engaged in an astonishingly wide variety of pursuits.

Nearly all federal laboratory research either serves the needs of a government agency or supports the goals of private industry. In the case of acid rain, for instance, government-sponsored research into causes and cures is virtually mandatory. There is a clearly-defined need for federally-sponsored agricultural research to support an industry with many individual producers. Nor could private industry in Canada accept the risks or afford the massive expenditures required to create a nuclear power industry. Similarly, many government departments exist, in the words of Stephen Berry of the University of Chicago, to perform "scientific and technical jobs that must be done to keep the nation functioning as we wish it, which no other institution is willing to do".

Agencies devoted to monitoring air and water pollution, pesticides and radiation levels, for instance, constitute a large and legitimate market for the output of federal laboratories.

#### 7.3.1 Agricultural and Food Research

Over 50 percent of agricultural and food research in Canada is still conducted by Agriculture Canada, which employs approximately 5,400 scientific personnel at about 50 establishments located from coast to coast. Agriculture faculties at universities comprise the second major group. Private industry is increasingly contributing to research through federal incentive programs and contracts, and provincial departments are gradually funding a larger proportion of research or developing their own capacity for research.

Broad traditional areas of crop and animal production and protection and soils receive a large proportion of the research effort. But in recent years there has been increasing emphasis on food processing and energy use. In addition, agricultural scientists are involved in research directed at protection of the environment and conducted in collaborate with other agencies at the provincial, federal and international levels.

In crop research, plant breeding is a major activity that annually contributes new varieties offering higher yield, better quality, increased resistance to disease and insects, and earlier maturity.

At Winnipeg, the Grain Research Laboratory of the Canadian Grain Commission monitors and assesses the quality of cereal grains and oilseeds grown and marketed in Canada, and carries out research on grain quality.

In animal production, breeding projects are under way for sheep, swine, poultry and cattle, conducted mainly by Agriculture Canada. Feeding and management studies are also conducted to improve the efficiency of conversion of feed into meat, milk or eggs, and increase the economic returns to producers.

Interrelationships between nutrition and quality of animal products are receiving research attention. Flavour, lean-to-fat ratio in meats, egg shell strength, shelf-life of packaged products, and effects of processing are under current research, resulting in enhanced consumer acceptability of animal products.

Research on reproductive physiology is also being used to improve livestock productivity; potential areas for development have been identified and progress has been made toward controlling the physiological and environmental factors influencing reproductive efficiency in livestock.

Within Agriculture Canada, research on animal disease is conducted by the Animal Pathology Division of the Food Production and Inspection Branch, with support from scientists at Canada's three veterinary colleges. The research is aimed at improving present techniques and developing new ones for the accurate and rapid diagnosis of animal diseases, both foreign and indigenous, and for determining the safety and quality of meat and meat products.

Soil research is concerned with basic work on the physical characterization of soils and the methods to control land degradation. Land suitability studies are becoming important because of urban encroachment on prime agricultural land and the looming world food shortage. Methods of land evaluation have been developed which use computer-assisted techniques to determine the relative value of different land areas to meet alternative national production goals.

Concern for environmental quality is a new thrust in agricultural research. Scientists are monitoring rivers, streams and lakes for contamination by soil nutrients, animal and industrial wastes and pesticide chemicals. Food products are carefully checked for freedom from chemical residues. Analytical methodology to permit this monitoring is continually under development.

Research in the area of economics in agriculture is aimed at determine the economic problems of the industry and formulating programs and policies to solve them. Studies of farm management resource use, farm income, market structure and agricultural productivity are carried out to assess the effect on agriculture and the economy of such changing conditions as prices, trade and technical developments. Economic models have been established to evaluate specific programs and policies for grains, oilseeds, cattle, hogs and dairy products. Farm management planning models have been developed for all regions and types of farms in Canada.

### 7.3.2 Environmental Research

The Environmental Conservation Service (ECS) is concerned with the wise and careful use of the country's wildlife, water and lands, and with promoting the economic potential of renewable resource management and development. The organization consists of three regionalized directorates (Inland Waters, Canadian Wildlife, and Lands) responsible for ECS efforts in each resource area. A fourth directorate, Policy and Program Development, is responsible for service-wide planning and policy development, and for several national programs which involve input from more than one of the three resource areas. ECS makes major contributions to the research and monitoring of toxic substances, developing coastal zone management plans with the provinces, providing baseline information related to major energy developments, and to the effects of acid rain on aquatic and terrestrial environments and wildlife.

The Canadian Forestry Service (CFS), recently brought under the authority of Agriculture Canada, conducts programs on the management and conservation of forestry resource and acts as the lead federal agency in forestry. In addition to its headquarters, which emphasizes policy and economics work, CFS has two national institutes and six forest research centres responding to regional opportunities and national goals. Current research priorities at CFS include forest regeneration, including tree breeding; national forestry data compilation and analysis; combating the spruce budworm; studying techniques to obtain energy from the forest; toxic substances research (in particular chemical insecticides) research in long-range transport of airborne pollutants; and the development of biological control of forest pests. Application of research is stressed, as is the environmental impact of forestry practices. Other CFS work involves programs with the Department of Employment and Immigration, DRIE, and provincial agencies, to establish practices for intensive forest management.

The Canadian Wildlife Service (CWS) conducts programs to manage and protect migratory birds and their habitats, both domestically and internationally. Increasing economic developments which threaten habitat, and growing public interest in wildlife, provide challenges in carrying out federal responsibilities for migratory birds. CWS surveys and regulates waterfowl hunting in Canada and works to conserve "non-game" bird populations such as seabirds on the Atlantic and Pacific coasts, it conducts joint studies of shorebirds with Latin American countries; inventories and researches the great blue heron and double-crested cormorant in Quebec; studies the impact of acid rain on wildlife in eastern Canada; and works to develop a waterfowl management plan for Canada. To protect migratory bird habitats, over 39 national wildlife areas and 82 migratory bird sanctuaries have been established across Canada and more are being considered.



CWS also conducts research on other wildlife of national interest, conserves critical wildlife habitat, and assists the provinces and territories with their wildlife conservation efforts. Areas of interests are: identification and protection in rare and endangered species; international trade of endangered species; wildlife on federal lands (national parks); and the health of wildlife especially the impact of toxic substances. Some recent projects are: the reintroduction of the peregrine falcon in Eastern Canada; effects of forest management practices on wildlife; studies on wolf-bison interactions in national parks in western Canada; rehabilitation of the whooping crane population; and co-operative research on the caribou herds in the north, with negotiation toward agreements for the management of caribou.

CWS operates five wildlife interpretation centres, located across Canada, where visitors can get a closer look at the natural environment.

The Inland Waters Directorate's (IWD) research program is carried out mainly at the National Water Research Institute at Burlington, Ontario, and at the National Hydrology Research Institute in the National Capital Region. There are also small research groups at Winnipeg, Calgary and Vancouver.

Water quality research provides a basis for setting water quality objectives and is directed toward measures for the management of Canada's aquatic environment. Specific projects include the pathways by which toxic contaminants move, changes in the ecology wrought by human activity (for example, acid rain), the understanding of the mechanisms leading to these changes, and the role of sediments in regulating water quality. Water quality research requires understanding and quantification of processes in the fields of surface water, snow and ice hydrology, sediment transport and hydrogeology.

IWD has developed flow prediction models that can be manipulated to receive and test new insights into hydrological processes such as evapotranspiration, snowmelt and glacier melt, soil moisture, and the mechanics of groundwater movement. Research is underway on the hydrology of northern environments and the effects upon it of such human activities as: pipeline and highway construction, as well as on the role of glaciers as a natural and viable water storage system, and hydrogeological processes controlling the movement of subsurface contaminants from sources such as landfill, road salts and radioactive wastes.

The Lands Directorate provides advice to the federal government on land-use policy in Canada and conducts studies of land problems and issues. The influence of federal programs on land use and the impact of policies, land-planning programs, and regulations are also being analyzed. The directorate represents Environment Canada on the Treasury Board's advisory committee on federal land management. Ecological characteristics, resource potential, and the actual use of land in Canada are researched. Projects include the Canada land inventory, the Canada land use monitoring program, and the northern land use information mapping project.



The directorate conducts research into major national and regional land problems to inform the public and decision-makers of their causes, solutions and importance to the nation. Programs to analyze the loss of agricultural land, the preservation of special resource lands and the federal role in land-use problems and solutions are undertaken. The directorate also provides land-planning assistance to the environmental assessment and review process, and to specific jurisdictions in solving land problems.

The directorate maintains a computerized land databank, the Canada land data system. It stores, processes and retrieves social, economic and environmental land data at national, provincial, regional and municipal levels.

The Atmospheric Environment Service (AES) is concerned primarily with meteorology, the science of the atmosphere. It provides national weather and climatological services for governments, the public and special users. It is responsible for ice services supporting navigation in Canadian waterways, coastal waters and the Arctic Archipelago. It is also involved in meteorological and climate research, and research on effects of atmospheric pollutants and instrument design. AES maintains 68 weather offices and many smaller service outlets across Canada.

Climatic variability and trends seriously affect production of food and energy, the availability of water and other environmental factors of importance to Canadians. A Canadian climate program is being developed to hasten the production of climate predictions and to provide information about the consequences of increasing carbon dioxide in the atmosphere. Improved methods of providing climate data and information to users, and of applying climate data to the needs of agriculture, industry and transportation, are being developed.

Research focuses on atmospheric pollutants with potentially harmful effects on human, animal and plant life. The dispersive and chemical properties of toxic substances in the atmosphere near the ground are studied, as well as others such as freon, which affect the stratosphere, especially the ozone layer. Important stratospheric constituents are monitored by AES and behaviour models are developed.

A comprehensive system for environmental prediction is being further developed to support many activities going on in the Arctic, especially oil drilling in the Beaufort Sea and coastal areas. New techniques of data assimilation and numerical prediction are applied, and more are under development at the Canadian Meteorological Centre. Advanced computer methods for processing satellite data are yielding very high-quality photographs of weather systems for use at Canada's main weather centres.

The Environmental Protection Service (EPS) deals with air and water pollution control; toxic chemicals management; environmental protection functions related to environmental contaminants, environmental emergencies and waste management; and policy, planning and assessment. It also acts as a focal point for environmental protection matters with industry, corresponding provincial agencies and the public.

The Water Pollution Control Directorate promotes and undertakes programs to achieve a level of water quality suitable for the protection of human health, suitable for the protection of fish, and capable of supporting a maximum diversity of water uses. The strategy is to limit the discharge of pollutants at their source. The directorate is emphasizing the identification, characterization and assessment of waste water effluents to control toxic chemicals.

Specific activities include: Ocean Dumping Control Act administration; phosphorus control in detergents, through regulations under the Canada Water Act; a joint program with the Water Pollution Control Federation on sewage plant operator training; pollution control under the authority of the Fisheries Act for the protection of fish in coastal areas; and technology development, demonstration and transfer in support of directorate activities. It also acts as a focal point for waste water treatment and sludge disposal.

Under the Fisheries Act, the emphasis is placed on developing site-specific controls to suit local needs. The waste water technology centre at Burlington, Ontario, plays a key role in the design of new or improved waste water treatment processes, in the development of new Canadian technology and equipment, and in the adaptation of proven foreign technological developments in order to solve Canadian pollution control problems.

The Air Pollution Control Directorate operates a national program designed to contain pollutants at their source through application of control technology combined with the management of air as a resource. The program addresses four major issues: long-range transport of air pollution (acid rain), toxic chemicals in the atmosphere, oxidants, and energy and the environment. Major activities are: implementation of regulations under the Clear Air Act; the national air pollution surveillance network, which collects air quality data from more than 150 centres for trend analysis, problem identification and program evaluation; development of industry sector guidelines recommending emission limits for air contaminants from various stationary sources and from in-use vehicles; and testing of new cars for compliance with emission standards, as well as testing of lead-free and leaded gasoline for compliance with lead limits.

The Environmental Impact Control Directorate guides national programs in contaminants control, environmental emergencies and waste management. It also ensures that environment protection measures are carried out for all activities initiated by, funded by, or under the jurisdiction of, the federal government.

A contaminants control program evaluates chemicals - those already in use and those not yet introduced - to determine whether their use will harm human health or the environment. Specific uses of these chemicals may be restricted or banned under the Environmental Contaminants Act. The program is also responsible for review of pest control programs and pesticides to be registered under the Department of Agriculture's Pest Control Products Act, and for advising the Department of Transport concerning the development of codes for the safe transportation of dangerous goods.

The environmental emergencies program proposes measures to prevent spills of oil and other hazardous substances, and develops contingency plans and technology for clean-up. It maintains the national alerting and reporting network to measure fast response to environmental emergencies.

The waste management program is developing a national program for the transportation and disposal of hazardous and non-hazardous wastes in cooperation with the provinces, industry and the public. Emphasis is placed on an energy and recycling.

The toxic chemicals management program is concerned with preventing or limiting environmental and health risks associated with the release of toxic chemicals. A toxic chemicals management centre was established in June 1980, to set priorities in the areas of environmental measurements, inventory, research and assessment of chemicals; and to develop plans of action for remedial measures.

The Policy, Planning and Assessment Directorate is responsible for socioeconomic analyses, federal activities assessment, and program and policy planning. Socioeconomic impact analyses are required for major federal regulations. The directorate must ensure that any EPS regulation is of net benefit to Canadian society, after all social and economic factors are weighed. The federal activities assessment program promotes and co-ordinates the development and implementation of environmental protection measures in such areas as federal facilities, offshore oil and gas exploration and development, marine transportation, pipelines, linear facilities (highways, transmission lines and railways), mines, ports and harbours, and facilities located in coastal zones. The program's nuclear division is involved in issues concerning radioactive waste disposal, preparation of information for inquiries and royal commissions, provision of scientific and technical advice, and co-ordination of activities related to radiation protection.

### 7.3.3 Energy, Mines and Resources Research

The Department of Energy, Mines and Resources is the government agency most responsible for policy formulation and research in the fields of energy and mineral resources. These include surveys and mapping, remote sensing of Canadian lands and waters from aircraft and satellites, and efforts to safeguard the environment and the health and safety of Canadians in mining and related work.

This work is carried out in four sectors: Energy Policy, Mineral Policy, Research and Technology, and Earth Science. The first two sectors are concerned mainly with studies, analyses and policy recommendations in their respective fields. The other two sectors, with some branches established many decades ago, are concerned primarily with scientific and technical research, and with surveys and mapping.



The Mineral Policy Sector, through policy development and co-ordination, works with provincial governments and industry to assist Canadian mineral producers and processors in adjusting to changing world economic conditions. The sector's analysis of policy covers such areas as international markets; the domestic investment climate; the status of particular groups within the industry, such as junior mining companies; employment; and the quality of working life. It takes into consideration such factors as mineral research, taxation, environmental controls, the security of Canadian mineral supplies, and the needs of those processing minerals beyond the crude state. Of particular interest is the economic links to resource development that can foster such spin-off benefits as mine machinery manufacturing. The sector continually seeks policies that will contribute to the discovery and development of mineral deposits and to job creation. This sector carried out a review of Canadian mineral policy to define opportunities and constraints for the mineral industry in the next few years. The review was released for public discussion early in 1982.

The Research and Technology Sector of the department includes the following branches: the Canada Centre for Mineral and Energy Technology (CANMET), the Canada Centre for Remote Sensing, the Explosives Branch and the Office of Energy Research and Development. The Earth Sciences Sector consists of the following branches: the Geological Survey of Canada, the Earth Physics Branch, the Surveys and Mapping Branch, and the Polar Continental Shelf Project.

CANMET's studies in mineral and energy technology are carried out at a number of laboratories in the Ottawa area and at Elliot Lake, Ontario, Calgary and Edmonton, Alberta, and Sydney, Nova Scotia. This work, which includes basic and applied research, development, demonstration and transfer of proved technology to industry, is aimed towards safer, cleaner and more efficient extraction, processing and use of the country's mineral resources. In recent years, coal, oil sands and heavy oils have received special attention. A patented CANMET process for upgrading heavy oil went into commercial use in 1984, and progress has been made in studies on the fluidized-bed combustion of coal, and on coal gasification and liquefaction. Current emphasis on mining health and safety includes a number of projects aimed at reducing hazards to mine workers from dust, radiation, diesel exhaust fumes, noise and vibration. The centre is also developing new methods of determining ground stress conditions and mine stability. In its processing and utilization research, CANMET works to develop new and improved methods of extracting minerals from ores, and to improve the physical properties of metals and other materials derived from these minerals.

The Canada Centre for Remote Sensing is responsible for developing and demonstrating systems, methods and instruments for acquiring, analyzing and disseminating remote sensing data obtained by aircraft and satellite, and contributing to the development of effective resource management, and information systems relating to Canada's terrain and oceans. Applications include agriculture, forestry, geology, oceanography, engineering, water resource management and ice reconnaissance. Under the guidance of the federal government's Inter-Agency Committee on Remote Sensing (IACRS),

the centre serves federal and provincial government departments and agencies, regional organizations, industry, universities and the general public. In addition, through the Canadian Advisory Committee on Remote Sensing, the centre coordinates remote sensing activities on a national scale. Another function of the Canada Centre for Remote Sensing is to foster international co-operation in the peaceful use of space technology.

In the interests of public safety, the Explosives Branch controls the authorization, manufacture, importation, sale, purchase, possession and storage of explosives in Canada, and the transportation of explosives on land other than by public railway.

The primary objective of the Office of Energy Research and Development is to provide coordination and to stimulate improved management of all federal energy research and development.

The dominant concern of the Geological Survey has been the assessment of energy and mineral resources. Scientific studies have been formulated in the light of that concern. Field work is being carried out in most regions, with emphasis on the north and offshore areas. In addition to studies aimed at a better understanding of the history and composition of the earth's crust underlying Canada, geologists have undertaken assessments of Canada's oil and gas potential in which cost considerations are an integral part. Rocks of late Precambrian age are important in the search for metallic minerals, and a major report has been released describing these rocks in Canada. Mineral assessments have been made of large areas of northern Canada, particularly those proposed for national parks. The work of the branch has been used in preparing the latest estimates of Canada's conventional oil and gas reserves and resources. The future of the earth sciences depends on new recruits. The results of a study made by the Canadian Geoscience Council on the teaching of geology and geophysics have been published.

The scientists of the Earth Physics Branch carry out research into the seismic, geothermal, geomagnetic, gravity and geodynamic characteristics of the Canadian land mass and offshore areas. Monitoring of earthquake activity and of longer-term tectonic motions is continuously carried out, as in the monitoring of the geomagnetic field. A seismic risk map of Canada is published as required, a revised gravity map of Canada is produced at 10-year intervals, and a chart showing the declination and rate of change of the magnetic field is produced at five-year intervals.

The characteristics, distribution and depth of permafrost in the Arctic are studied, as are related hazards in transportation and drilling. Multidisciplinary surveys and studies of the structure of the deep earth are carried out, both on- and offshore, to enhance the understanding of the evolution, configuration and composition of the earth. Studies are being carried out in British Columbia, Alberta, Saskatchewan and the Maritimes to determine the geothermal energy potential in these areas.



The Surveys and Mapping Branch compiles, prints and distributes topographical maps, aeronautical charts, specialized maps such as electoral and boundary maps, and general maps. It establishes and maintains the basic geodetic control survey networks, manages and regulates the boundary and property surveys of Canada Lands, and collaborates with the United States in the maintenance of the international boundary. It produces gazetteers and the National Atlas.

The Polar Continental Shelf Project provides logistic communications and accommodation support to research and surveys in the high Arctic. The emphasis has been on testing the probable response of the Arctic environment and ecology to industrial activity, such as oil exploration and pipeline construction.

#### 7.3.4 Medical and Health Research

Biomedical research in Canada is carried out primarily in laboratories located in the universities and their affiliated hospitals. The federal government provides a major part of the financial support for the direct operating costs of this research through a variety of support mechanisms. The Medical Research Council (MRC) of Canada provides support for research projects in the basic, applied, and clinical health sciences, as well as clinical trials for the assessment and validation of diagnostic and treatment procedures. The MRC has the following programs available to assist research: grants-in-aid, major equipment grants, special program grants, development grants, subject research development grants, program grants, groups, fellowships and centennial fellowships, investigator's salary support, studentships, summer scholars, visiting professorships, visiting scientists, career investigator awards, scholarships, training grants, research professorships, symposia, travel grants and a president's fund.

Other investigators in the health sciences are either supported by another major federal government agency, the national health research and development program of the Department of National Health and Welfare, by voluntary agencies, such as the National Cancer Institute of Canada, the Heart Foundation, and the Arthritis Society, or by the growing involvement of the provincial governments in health research and health care delivery. The private sector is also involved, especially in the area of pharmaceuticals.

#### 7.3.5 Northern Research

Canada has long recognized the contribution research makes to the socioeconomic development of the north. Moreover, the Canadian north has some unique characteristics of particular interest to the scientific community.

Because of this, the Department of Indian and Northern Affairs has designed certain long-term measures to encourage and support northern research. The training of graduate students is assisted by special grants administered by the department. In addition, under its Northern Science Resource Centres program, the department operates the Western Arctic Science Resource Centre at Inuvik, and the Eastern Arctic Science Resource Centre at Igloolik, to accommodate scientists from government, universities and industry. Plans are being made to establish a Science Institute in the north which would respond more fully to the needs of northerners.

These measures do not, however, meet the need for research to support development programs or to obtain specific information required to support the regulatory and administrative responsibilities of the Department. For these purposes, substantial programs of applied problem-oriented research have been organized, such as: the Arctic Land Use Research program; the environmental-social program; the Eastern Arctic Marine Environmental Studies (EAMES) program; the northern pipelines program; the Beaufort Sea project; oil-spill studies; waste disposal studies; and regional socio-economic studies. The Department of Indian and Northern Affairs is also participating in interdepartmental programs such as the Baffin Island Oil Spill (BIOS) and a series of mining studies.

#### 7.3.6 Fish and Ocean Research

The Department of Fisheries and Oceans has an extensive network of research establishments and laboratories throughout Canada. These laboratories specialize in all types of marine science ranging from studies on individual species to oceanography. In particular, the Pacific Biological Station at Nanaimo, British Columbia, studies Pacific salmon species and other west coast species of fish and shellfish. The Institute of Ocean Sciences, also in British Columbia, is the centre for oceanographic and hydrographic research on the west coast and in the western Arctic. The Freshwater Institute, located at Winnipeg, Manitoba, specializes in freshwater species. The Arctic Biological Station, at Ste. Anne de Bellevue, Quebec, specializes in marine mammal studies. The St. Andrews Biological Station in St. Andrews, New Brunswick, studies lobster, Atlantic salmon and other east coast species. Finally, the Bedford Institute of Oceanography at Dartmouth, Nova Scotia, is the centre for oceanographic and hydrographic research on the Atlantic coast and in the eastern Arctic. The Northwest Atlantic Fisheries Centre at St. John's, Newfoundland is the research centre for Atlantic fish species.

#### 7.3.7 Communications Research

The Department of Communications and its Communications Research Centre, located at Shirley's Bay, Ontario, is equipped with several laboratories dealing with the research and development of new communications systems, radar and telecommunications/fibre optics, microwave and satellite communications systems, and other space technology.

7.4 The Provincial Research Organizations (PROs)

Eight provinces have established provincial research organizations. These are:

Nova Scotia Research Foundation Corporation (NSRFC)  
 New Brunswick Research and Productivity Council (NBRPC)  
 Centre de recherche industrielle du Québec (CRIQ)  
 Ontario Research Foundation (ORF)  
 Manitoba Research Council (MRC)  
 Saskatchewan Research Council (SRC)  
 Alberta Research Council (ARC)  
 British Columbia Research (BCR)

Although the PROs were created under a variety of different circumstances, at different times and with varying mandates, they have two common objectives: to carry out research and development activities of particular significance to the province, and to provide technological assistance to primary and secondary industries. PROs generated four percent of total R&D expenditures in 1984, but play a major role in the transfer of technology from laboratory to production unit, acting as an intermediary between science and business.

Expenditures outlined in Table 42 indicate that the Alberta Research Council provides approximately one-third of total PRO funding in Canada, followed by Ontario and Quebec, each at roughly one-fifth of total expenditures. Table 43 demonstrates that provincial governments are the major benefactors of PROs, providing 38 percent of direct funding in 1984. In that year, Canadian business sources accounted for 20 percent of PRO funding.

TABLE 42  
CURRENT EXPENDITURES, (IN \$000) BY SCIENTIFIC ACTIVITY  
BY PROVINCIAL RESEARCH ORGANIZATIONS, 1985

Institute	Scientific Research	Development	Resource Surveys	Analysis & Testing	Industrial Engineering	Other <sup>1</sup>	Total
NS	615	2,152	364	922	369	1,721	6,148
NB	1,534	800	67	1,667	667	1,934	6,669
Que.	3,706	9,064	--	4,131	472	6,231	23,604
Ont.	5,074	10,149	--	8,626	254	1,268	25,371
Man.	204	2,201	99	990	110	1,898	5,502
Sask.	3,505	1,122	1,542	1,262	3,775	2,817	14,023
Alta.	4,982	16,863	3,449	6,898	1,150	4,982	38,324
BC	1,853	427	--	974	234	4,635	8,123
TOTAL	21,473	42,778	5,526	25,470	7,031	25,486	127,764

<sup>1</sup> Feasibility studies \$4,797; library and technical information \$10,403; industrial innovation, \$7,526; and other, \$2,758.

Source: Statistics Canada, Science Statistics Service Bulletin, October, 1986.

TABLE 43  
SOURCES OF FUNDS, PROVINCIAL RESEARCH ORGANIZATIONS, 1980-85  
 (percentage)

<u>Source and Type of Funds</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
<u>Provincial Governments</u>						
Subsidies and grants	44	36	43	44	38	37
Contracts	16	19	20	19	22	19
<u>Federal Government</u>						
Subsidies and Grants	-	-	-	-	-	-
Contracts	7	8	9	12	14	13
Canadian industry contracts	24	24	21	20	20	20
Other Canadian sources	6	10	5	3	4	9
Foreign contracts	3	3	2	2	2	2
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Statistics Canada, Science Statistics Service Bulletin, December 1985, and October 1986.

In order to fulfill the need for technology transfer and provide a science and business interface, the PROs provide three types of services:

- free industrial engineering, technical information and advice to small- and medium-sized enterprises;
- fee-for-service R&D, feasibility studies, market surveys, analysis and testing of products and processes; and,
- exploratory R&D directed towards provincial industrial development.

The extent to which a provincial organization engages in one type of activity over another, the exact nature of the activities, the fields in which they are involved, and even their funding sources, vary considerably from institution to institution. For example, the Textile and Clothing Technology Centre established by ORF has conducted product research testing and evaluation for the textile industry for over 50 years. BCR receives funding from the BC government to perform R&D on coal liquefaction and fluidized bed combustion. NSRFC operates a Centre for Ocean Technology. ARC, together with the Alberta Oil Sands Technology and Research Authority, operates an Oil Sands Information Centre.



QUALITY OF LIFE AND HIGH TECHNOLOGY WORK FORCE

Studies suggest that the high-tech work force is well-educated, generally younger than average, and physically fit, and that it works at an intense intellectual and physical level. Leisure time is thus at a premium and extracurricular pursuits are generally geared to counter the demanding working environment. High-tech companies, taking these factors into account, have attempted to locate in quieter, more rustic surroundings, with housing of all types and price ranges, and close to outdoor and indoor recreation such as hiking, skiing, fishing, boating, racquet sports, etc. Proximity to peers and universities and technical colleges is important as a means of both upgrading qualifications and exchanging ideas. Communities in which the critical mass has already formed display these characteristics. There are several such locations in Canada.

## 8.1

Standard of Living

Canada's overall standard of living ranks among the highest in the world. In terms of wealth, measured by GDP per capita, Canada ranked fourth in 1983 behind Switzerland, Norway and the US. With a population of only 25 million, Canada's gross domestic product ranked seventh in the world in size, ahead of many more populous countries. Canadians are a mobile people. With fair distances between major centres, 82 percent of Canadian households own automobiles, vans or trucks. This compares to 90 percent of US households. Other western industrial countries such as Japan, France, Germany, and the UK have household vehicle ownership rates of between 60 percent and 70 percent. Canada ranks very high, if not at the top, in the percentage of households owning other durable goods such as refrigerators (99 percent), washing machines (77 percent), telephones (98 percent), televisions (98 percent), radios (99 percent), and video tape recorders (23.4 percent).<sup>1</sup> From 1970 to 1982, prices in Canada rose by 270 percent. By comparison, prices increased by 437 percent in the UK, and 319 percent in France, 255 percent in Japan and 248 percent in the US. Food prices rose by 315 percent in Canada compared to 463 percent in the UK, 362 percent in France, 251 percent in Japan and 253 percent in the US, from where most of Canadian food imports originate.

## 8.2

Health

National health insurance plans (national in scope, but administered by the provinces and territories) ensure that Canadians are afforded the most up-to-date medical services at affordable premiums. In addition, massive awareness campaigns are being conducted by federal and provincial governments to discourage careless driving, to discourage drug, alcohol and tobacco abuse, and to promote a healthier lifestyle through exercise, physical fitness and nutrition.

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1 Statistics Canada, Household Facilities and Equipment, May 1985.



### 8.3 Housing

Canada has a population density of about 2.7 persons per square kilometer (1.0 per square mile), one of the lowest in the world. Canadians have always preferred to live in dwellings which afford a high degree of privacy, and this is reflected in the comparative housing statistics. Among OECD countries, Canada has the lowest person per room density for principal dwellings at less than 0.5, compared to 0.9 in Ireland and 0.8 in Japan, Austria and Italy. Over 60 percent of Canadians live in dwellings with an occupation density of less than 0.5 persons per room. The US, which comes next, has only 50 percent of its population living under similar conditions. Canadians enjoy high standards of housing. Well over half of Canada's seven million dwellings are single houses. The average dwelling contains more than five rooms, is well constructed and centrally heated. Almost 100 percent of Canadian households have piped water and amenities such as flush toilets and fixed baths or showers. By comparison, the US is one or two points below. The majority of houses are generally well-maintained and often surrounded by attractive lawns with flower and vegetable gardens, shrubs, and shade trees.

### 8.4 Leisure Activities

Canadians are able to participate extensively in leisure activity, both outdoor and indoor. The Canadian climate provides opportunities for winter and summer sports and activities. The abundant resources allow for such diverse pursuits as skating, skiing, camping, boating, swimming, cycling, golf, tennis, mountain climbing, hiking, exploring or any other imaginable adventure.

Canadians participate and achieve significant results in international sporting events such as the winter and summer Olympic Games. During the 1984 games, Canada won a record number of medals. Canadians, of course, excel in winter sports, and in 1984-85, were world champions in ice hockey, curling, speed skating, and figure skating. Not to be forgotten are Canadian achievements in summer sports such as track and field, water skiing, sailing, diving and swimming, where Canadians hold several world records and championships.

Canadians are also knowledgeable and fervent spectators. World-class facilities such as the Olympic Stadium at Montreal, the domed coliseum at Vancouver, the proposed covered stadium at Toronto, and numerous arenas and stadia in every major centre in the country, afford Canadians the opportunity of watching the best in the world.

Canadians are a cultured and sophisticated people. Most major centres have professional and amateur theatre, dance and musical companies. There are excellent art galleries, museums and zoos. Cities have abundant parks and gardens. Canadian restaurants are renowned, and Canadian chefs successfully compete at the Culinary Olympics, winning several gold medals in 1985. The ethnic mosaic of the population creates culturally-interesting and rewarding opportunities for both education and entertainment in just about any major Canadian location. Canada is not a cultural "melting pot", as is the US; Canadians are encouraged to preserve and nurture their cultural heritage. The largest ethnic groups are of German, Italian, Ukrainian, Polish and Dutch descent.

### 8.5 Education

Canada has one of the most comprehensive and enlightened educational systems in the world. Children are legally obliged to attend school from the age of five, six or seven (depending on the province of residence) to the age of 15 or 16, again depending on the province of residence. However, most children remain in school much longer than the minimum school-leaving age, and many go on to one of Canada's 60 universities or to community colleges. In 1980, over 100,000 university degrees (bachelor's, master's or doctorates) were conferred, and 64,500 community college diplomas were awarded. In Canada, education up to the university or community college level is free (except for private schools), but in some provinces, there may be a charge for textbooks or school supplies.

### 8.6 Crime

Canada is a comparatively safe place. Even in the larger metropolitan areas, Canadians are not afraid to walk about at night. Canadians are not permitted to own or carry concealed weapons such as handguns, knives, etc., except by authority granted by the police. Canadians are entitled to own rifles and shotguns for purposes of hunting. This situation is reflected in the lower crime statistics for Canada as compared to the US, where restrictions on widespread ownership of concealed weapons are fewer and in some jurisdictions, non-existent.





# JOINT VENTURE, LICENSING AND TECHNOLOGY TRANSFERS<sup>1</sup>

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<sup>1</sup> Adapted from The Licensing and Joint Venture Guide, by H.J. Stitt and S.R. Baker, with the permission of the Ontario Ministry of Industry, Trade and Technology.



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## JOINT VENTURES, LICENSING, TECHNOLOGY TRANSFERS<sup>1</sup>

Joint ventures, licensing and technology transfer arrangements have become common fixtures of business in Canada. Available to Canadians and non-Canadians alike, these arrangements offer a number of advantages, including access to technology and markets, cost reductions, and increased productivity.

This section provides a comprehensive overview of these popular business practices with particular attention to their legal and tax ramifications.

### I            ADVANTAGES OF TECHNOLOGY ACQUISITION

#### 1.1        As a Means of Growth

External growth through licensing has several advantages over both research and development and mergers and acquisitions.

##### 1.1.1     Overall Productivity Improvement

By obtaining a licence, a company is able to take immediate advantage of the experience and know-how of the licensor. This increases productivity, not only because of the new licensed product, but also because more time may then be spent on improving older products and their manufacturing methods.

##### 1.1.2     More Rapid New Product Development

With increasing costs of research and development, many companies will find it necessary to look outside for new products and technology. This will result in more meaningful international relationships and should provide the basis for accelerating the pace of technological change. When a company does not have to spend its efforts on developing basic technologies, its growth is accelerated.

##### 1.1.3     Improvements in Production Processes

With rapid increases in technology, it has become more important than ever for a company to know not only what to produce, but also how to produce it in an efficient and cost-effective manner.

If a company is using all of its internal capabilities to generate new products, its competitors may be developing ways of producing their existing products more efficiently. The competitors will be able to undercut prices and possibly take away a market from an established manufacturer.

If a company has an organized program for finding new products and technology that can be produced under licence from outside sources, then it can devote more of its research and engineering to developing more efficient methods of producing its existing products.

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<sup>1</sup> Adapted from The Licensing and Joint Venture Guide, by H.J. Stitt and S.R. Baker, with the permission of the Ontario Ministry of Industry, Trade and Technology.

### 1.2 Maximizing Control; Minimizing Cost and Risk

Companies decide to acquire technology for a number of reasons:

- Product life is becoming increasingly short. Licensing can ensure a steady flow of new products.
- The cost of acquiring fully-developed new products through licence is estimated to be as little as two to 10 percent of the cost of developing comparable products internally.
- Licensing drastically reduces the lead time for introducing new products.
- A company can easily and accurately predict its development and front-end costs for new products acquired through licence.
- If a licensed product fails in the marketplace, the company's risk is minimal.
- Products manufactured under licence increase cash flow because development costs are paid for after the products are sold (via royalties) rather than before it enters the market.

### 1.3 Other Benefits

Searching for and finding technology has interesting and beneficial side effects. By visiting your manufacturing counterparts, you may find new ideas and techniques about production machinery, plant layout, work methods, suppliers, and new products.

You may derive several benefits:

- Increased output as a result of the licensed product.
- Reduced unit labor costs for existing products, since you can direct engineering efforts to this area rather than to developing new products.
- Increased productivity through better use of working hours after the new product is integrated into production.
- Reduced working hours as a result of new technology in automation and work methods through specific research in this area.

Even if a technology transfer arrangement is not concluded, you may find an opportunity to do profitable subcontract manufacturing.

Some interesting marketing opportunities may present themselves in terms of export markets and the products of a prospective licensor. It may well be that the source company has no products which you want to produce under licence, but it may have products you could distribute in your home and export markets.



Cross-licensing is another possibility: the companies that are sources for new products under licence may also be interested in your products and technology. As a byproduct of a new product search, you may obtain a licensee for some of your technology. Another possibility is the joint development of a market in a third country.

Your new product search can produce other opportunities for more fully using your facilities and contributing to increased profits. Such benefits would be a bonus; you cannot plan them beforehand.

## 2 NEGOTIATION

The length of time required to negotiate a technology transfer agreement, the number of steps involved, and the manner in which the negotiations are conducted will depend on such factors as:

- the complexity and importance of the proposed agreement;
- the previous relationship of the licensee to the prospective licensor;
- the amount of exploratory research and planning done before opening the negotiations; and
- the time, money and personnel available for or assigned to the negotiations.

There are basically three stages in the negotiation of a technology transfer agreement:

- preliminary fact-finding and exchange of views between licensor and licensee;
- drafting a proposal covering the major commitments of both parties; and
- preparation and approval of a formal contract.

### 2.1 Preliminary Steps

Several important steps should be taken before or during the early contacts with the prospective licensor.

#### 2.1.1 Ascertain the Financial Status of the Licensor

When you reach a point where you are confident about securing a licence, you will want to further investigate the financial background of the potential licensor.

#### 2.1.2 Become Better Acquainted with the Licensor

Learn the licensor's management views, methods of operation, objectives, and expectations of performance standards and working relationships under an agreement.

### 2.1.3 Identify Your Advantages

You can offer a number of important advantages to a potential licensor. If you must convince a reluctant source to consider a licensing arrangement, you should be familiar with these advantages and be prepared to offer them in your favour:

- You are located in a country with favourable wage rates. You can offer a possible alternative or supplemental source of supply for a licensor who may be losing his competitive position due to high wages in his or her industry or country.
- If the licensor is in an industry which suffers from frequent or prolonged strikes, you can offer a potential source of product even when his or her own facilities are not operating.
- If your expected output is lower than the licensor's normal volume, you could purchase low-speed or low-capacity production equipment which he or she wants to replace to become a more efficient producer.
- You can provide important technical and commercial information and ideas from your own market, without being hindered by language barriers or a lack of understanding of local customs and regulations.
- The license agreement might lead to a joint venture on a more important project or technology, or to some form of investment in or acquisition of your corporation (or the licensor's).
- You can save him or her the risk and expense of testing and developing a new market by doing so yourself.

### 2.1.4 Identify Your Other Abilities

There are other capabilities that you can offer a licensor:

- The technical contribution which you can make to improve a licensed product or to adapt it in a novel way to your own market.
- The ability to set up the manufacturing capability for the licensed product in the shortest possible time.
- Minimizing capital outlays in bringing the new licensed product on-stream, either through use of existing equipment and facilities or the clever acquisition of such capabilities.
- Special know-how in quality assurance, high volume production, optimization of quality, etc.
- Strong product development capability which can be used to build a line of complementary products around the licensed product.

- A strong or unique capability to be able either to produce or market a large volume of the licensed product.
- Particular strengths in terms of the availability of raw materials, storage, shipping or other logistical factors.
- Financial incentives offered by local government, for example reimbursement for training workers, loans at favourable rates to equip the plant for the new production, tax deferrals and other subsidies offered by government to ensure full employment.

## 2.2 The Negotiation Process

While technology transfer negotiations may be conducted by correspondence or through an intermediary, personal discussion and bargaining is generally the favoured method. Negotiation in person leads to better understanding and rapport between the negotiating parties. Mutual respect and confidence is the key to the success of the technology transfer agreement.

It is useful to be aware of some of the more common mistakes that can be made in negotiating a license agreement.

- Failure to do your homework (i.e. technology, product or company evaluation and market analysis).
- The inexperienced negotiator will tend to dismiss in advance any proposal or negotiating point which he thinks the potential licensor will object to.
- A timid, inexperienced or unknowledgeable negotiator will not want to ask difficult but necessary questions.
- Even though you have more excess plant capacity, do not let the licensor know that you are desperate to reach an agreement in order to keep your plant doors open. His demands may close the doors sooner than you had anticipated.
- Do not be so eager that you try to reach agreement by backing off from an equitable position in return for only short-term harmony.

## 3 IMPLEMENTATION OF TECHNOLOGY TRANSFERS

When technology transfers are considered in detail, each transaction has unique elements. It should not be assumed that a given set of factors will fall neatly into a pre-determined category for which a label and standard form is available. Such thinking is likely to lead to insufficient analysis or inattention to detail. The purpose and intention of the transaction should govern its form, not vice versa.

### 3.1 Necessity for Formal Documentation

While there is no general rule of law that technology transfers must be documented, to proceed with such arrangements without the safeguards provided by formal contracts is to court disaster. Prematurely implemented or inadequately documented transactions are among the most typical situations brought before courts for judicial determination.

This is not to ignore the usefulness verbal or written proposals, memoranda, letters of intent or non-binding "heads of agreement". The essential thing is to remember that there is no definitive agreement, and to withhold actual implementation, until a proper contract has been prepared, agreed upon and executed.

The development of clear documentation is a creative process stemming from the initial assessment of needs and goals, and subsequent interaction of the parties. It should involve the principals, whose business interests will be vitally affected, and their professional advisors. Some business people take the oversimplified view that once the elements of a proposal are submitted to counsel, a proper contract will more or less automatically result. While it is your lawyer's duty to explore and resolve questions which arise in the drafting process, and to produce internally consistent documents, there is no substitute for careful study of intermediate drafts and completed contracts by the interested parties.

### 3.2 Non-legal Elements of Successful Technology Transfers

Mutual understanding and good faith may be as important to the success of technology transfer arrangements as a comprehensive legal framework. If these elements are present, and the underlying agreement is basically fair to both parties, there is a strong likelihood that problems will be resolved amicably. Formal contracts and forms of business organization seem to work best when treated as a framework for a long-term, cooperative relationship. This is especially true in the case of international transactions, where cultural factors are often very significant.

Nonetheless, good faith is not a substitute for precise and comprehensive contracts which provide both the basic ground rules and the fallback position in the event of a breakdown in performance or communication. Remember that written contracts are likely to remain long after the individuals who negotiated or initially administered them have left the scene.

### 3.3 "Standard" Documentation

It is commonplace for a supplier of technology to submit copies of his "standard" contract as soon as a serious intention to negotiate has been established. This practice is especially common in the case of licensing, and is discussed in more detail under that heading. The tactics of a technology supplier in proffering ready-made contracts may be initially attractive to the recipient, who is inclined to see in it a gesture of acceptance and a straightforward method of moving ahead. If he lacks a secure strategy of his own, the other party's forms may appear as a life raft in a sea of uncertainty.



Needless to say, the party receiving a "standard" contract should proceed with caution. Careful business and legal analysis will reveal whether or not the document is satisfactory as a starting point. It is astonishing how often such contracts miss critical points of the particular transaction or contain language which is unsuitable because it was originally drafted for a different set of circumstances. Foreign documents may also fail to take into account important Canadian legal requirements.

### 3.4 Role of Lawyers

Technology transfers usually require legal counsel. Opinions differ as to the stage at which counsel should be introduced into the process. Some believe that the involvement of lawyers early in negotiations may create an unnecessarily formal or adversarial environment. Others involve counsel at an early stage with a view to avoiding pitfalls and proceeding in an organized and efficient manner. Both views may be valid, depending on one's own experience and the role counsel is expected to assume.

Early consideration of basic guidelines, tax considerations, legal peculiarities of the foreign jurisdiction, and foreign investment review considerations can serve as excellent preventive medicine. It is advisable to secure the advice of competent counsel in the foreign jurisdiction to advise on such factors and generally be available for consultation from the outset.

This does not mean that counsel need necessarily be present in the early fact-finding phase or preliminary negotiations. Counsel should, however, be involved or at least consulted whenever potentially binding documents are being prepared. This caution extends even to the "non-binding" letter of intent or heads of agreement, which may have more far-reaching effects than anticipated if not properly prepared.

### 3.5 Licence or Joint Venture?

In most cases, the basic choice will be between licensing alone and some form of joint venture. While a joint venture will probably include licensing as the means for transferring technology from one or both parties to the venture, the elements of shared equity and management will largely determine their relationship and distinguish the joint venture arrangement from arm's-length licensing. A comparison of licensing arrangements and joint ventures is set out below. Bear in mind that the distinction may not be clear-cut.



3.6 Comparison of Licensing and Joint Ventures

<u>Licence Agreement</u>	<u>Joint Venture</u>
<u>Purpose</u>	
Licensee has existing or available products or facilities but requires technology which may be acquired more cheaply or quickly from third parties than by internal research and development. Need may be limited in extent or duration.	Transferee has more comprehensive needs which may include capital, permanent injection of management or technical assistance, and access to markets not available through licensing alone.
Licensor seeks exploitation of its technology in territories of secondary interest.	Transferor seeks direct entry into new markets; recognizes value of local participation. Government endorsement of foreign direct investment may be supported by degree of local involvement.
Licensee seeks to maximize its own business by addition of new technology. If royalties are based on sales, licensor's interest is in maximizing sales rather than profits.	Joint venture partners have mutual interest in generating profits from the venture. Licence may be present but incidental to joint objective of maximizing business profits.
<u>Relationship of Parties</u>	
Parties deal at arm's length. Licensee exploits licensed rights and pays royalties. Licensee accepts conditions of use, including product and territorial limitations and possible restrictions on ownership and use of its own improvements.	Parties unite resources in a common enterprise to which both are committed on a continuing basis. Typically, one party provides technology, technical assistance, and capital; while the other provides basic production facilities, local marketing expertise, national identity, and capital.
Parties remain potential competitors subject to specific terms of licensing arrangement.	Competition is eliminated within the scope and duration of joint venture.
<u>Benefits/Deficiencies</u>	
Initial outlay of funds is minimized for both parties.	Greater commitment of capital.
Licensee remains dependent upon his own infrastructure, including management skills.	Pooling of all resources of the parties may create a stronger economic unit than either could achieve independently, with only limited assistance from the other.

Licence Agreement

Licensee has existing or available  
Licensee remains free to manage  
its own business subject to  
restrictions of limited duration.

Licensor has only indirect  
involvement in the markets to which  
the license applies and may not  
maximize profits.

Divides risk.

Joint Venture

Transferee has more comprehensive needs  
The parties are committed to cooperation  
and (usually) shared management. Some  
joint ventures fail because of differences in  
basic assumptions or management styles or  
competition for control.

Joint venture is a form of direct  
investment for the foreign technology  
transferor. The local joint venture  
partner offers, among other things,  
knowledge of local markets, laws and  
customs, and personnel adapted to the local  
environment.

Spreads risk.

4 OUTRIGHT PURCHASE

The outright purchase of intellectual property is used infrequently as an alternative to licensing and joint ventures. When appropriate, it is the simplest mode of acquisition. The transfer documents need contain little more than an accurate description of the property being transferred, the price and terms of payment and language by which the transferor clearly transfers and warrants good and marketable title.

Assignments of registered rights such as patents, trademarks and industrial designs assume a fairly standard form containing all the requirements for registration in the appropriate government office. Agreements for the outright purchase of unpatented know-how are somewhat more complex because of the amorphous nature of the subject matter. The vendor may not ordinarily divest himself or herself of all rights in know-how, but will either reserve the user's rights in his or her own market, or purport to sell the rights as they apply to the purchaser's territory.

It is obvious that this is no ordinary sale of property as understood in relation to tangible goods or real estate. There are learned discussions in judgments of the Canadian and English courts, dealing with issues of taxation, as to whether or not know-how is "property" at all. For practical purposes it may be labelled as property, but its peculiar character must always be taken into account.

In what purports to be an outright sale and purchase, the buyer will undoubtedly extract covenants to the effect that the seller will not make further sales or disclosures to third parties or will do so only within certain limits. The buyer may impose on the seller additional duties to guard against unauthorized disclosure and assist the buyer to prevent or remedy unauthorized use or disclosure. In short, an agreement for the purchase of know-how will contain some of the same elements as a license agreement. The seller is likely to require reciprocal covenants from the buyer to protect his or her residual interest.

Some possible reasons for the relative infrequency of outright purchase as a method of acquiring technology are as follows:

- Owners of intellectual property rights are often simply unwilling to contemplate unrestricted divestiture. This is likely to be especially true of state-of-the-art technology.
- Transferees who want continuing technical assistance and/or rights to the transferor's improvements and future developments may find that outright purchase is not a sound basis for such an ongoing relationship.
- Except in the case of mature technology with a history of market testing, the value of intellectual property is difficult to assess.
- The purchase price is an up-front cost to the purchaser, unlike a rent or royalty based on use, or a share of equity in the purchaser's business which costs him nothing in immediate monetary terms.

In other contexts, the outright sale and purchase of intellectual property rights is a common occurrence. The organization of an international licensing program may involve the outright transfer of intellectual property rights from the owner to a wholly-owned or joint-venture licensing subsidiary, which may be located in a low-tax jurisdiction. Again, when all the assets of an ongoing business are bought and sold, the purchaser obtains title to any intangible property rights of the business, as well as to land, buildings and equipment.

## 5 LICENSING

### 5.1 Canada's Attraction for Technology Transfers

Canada is attractive to foreign licensors for a variety of reasons.

#### 5.1.1 Licensing Not Regulated

Canada has no regulatory scheme governing licensing arrangements. In some countries, licences are not valid until governmental approval or registration has been completed. In these countries, registered licences may be available for public inspection. The potential foreign licensor is usually pleased to learn that Canada does not require any such registration or public disclosure.

#### 5.1.2 No Foreign Investment Review

The Investment Canada Act, which establishes a screening process for new foreign investment in Canadian businesses, does not apply to licensing.

#### 5.1.3 Exclusive Licences Permitted

Many countries impose restrictions on licence agreements which grant exclusivity in products or territory. Such restrictions are based on the theory that exclusivity may reduce competition or otherwise restrain trade. Canadian law puts exclusive dealing, market restriction and tied selling in a category of reviewable trade practices.

Such practices are not prohibited outright and do not constitute criminal or civil offences. Where competition is likely to be lessened substantially because the practice is widespread or the supplier has a commanding position in the market, an order prohibiting the practice can be issued by the Competition Tribunal, which gives the supplier a reasonable opportunity to be heard. Such prohibitions are extremely rare. The practical result is that, in the vast majority of cases, business considerations dictate whether the licence agreement may provide for exclusive dealing, market restrictions or tied selling. You should consult legal counsel on this point.

#### 5.1.4 No Exchange Controls

Canada has no exchange controls or other restrictions on the payment of royalties. Like most countries, Canada taxes royalty payments to non-resident licensors. The so-called withholding tax on such royalties is set at 25 percent in the Canadian Income Tax Act, but is reduced to 15 percent or less if the payment is made to licensors in any of the following 32 countries with which Canada has entered into tax treaties: Australia, Austria, Barbados, Belgium, Denmark, Dominican Republic, Finland, France, Germany, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Korea, Malaysia, Morocco, Netherlands, New Zealand, Norway, Pakistan, Philippines, Rumania, Singapore, South Africa, Spain, Sweden, Switzerland, Trinidad and Tobago, the United Kingdom, United States.

#### 5.1.5 Freedom of Contract

Canadian licence agreements are one variety of ordinary commercial contracts. As such, they benefit from the venerable principle of freedom of contract. The parties may, for the most part, create their own legal framework by the manner in which the contract is written. They will only be successful, of course, to the extent that the contract is clear and unambiguous.

The courts have created many rules to help judges arrive at conclusions as to the intention of the parties where contract language is ambiguous or the written agreement fails to address a specific issue. However, judicial interpretations are the result of litigation, which is often long, expensive and mutually unsatisfying. It does not provide an effective way for the parties to an ongoing business relationship to solve problems as they occur.

## 6 LICENSE AGREEMENTS

### 6.1 Agreements and Forms

#### 6.1.1 Point of Departure

While licence agreements must cover such basic subjects as the rights granted, the consideration payable, and the duration of the arrangement, there is no definitive form.



### 6.1.2 "Standard" Forms

As noted earlier, some licensors develop forms which they call "standard". There are three basic situations in which such forms are offered.

- The licensor (usually a large corporation with an extensive licensing program) administers the program by using comprehensive printed forms based on years of accumulated experience. Space is left for identification of the licensee, and mechanisms are provided for the inclusion of items which vary from contract to contract, such as the definition of licensed rights, territory and royalty rates. Even these factors are in some instances invariable. There is little room for negotiation of terms. Such forms are poorly adapted to the requirements of complex manufacturing arrangement where many individual items and the overall working relationship are likely to require custom-tailored treatment.
- The licensor has had some experience with licensing, from which "standard" documentation has emerged. While there is much more flexibility to negotiate than in the first situation, the licensee may be expected to present its variations to the standard contract as exceptions.
- The "standard" document may in fact be nothing more than an adapted version of the contract which the licensor has most recently entered into in another jurisdiction. In such a case, there is ample room for negotiation. The licensor may decide to counter with his own draft agreement.

If licensors' "standard" forms cannot be avoided altogether, they should be treated, at best, as a starting point for the process of formal documentation.

### 6.1.3 Licensed Rights and Products

Licences deal with rights which fall within the broad and sometimes elusive category of intangible or intellectual property. There are many such rights, but those in which licensees are interested are patents and registered industrial designs, unpatented technology or trade secrets (often called "know-how"), trademarks and copyrights.

The particular rights in which a licensee is interested are usually embodied in a definable product. If so, it is useful in the licence agreement to make reference to the product as well as to the underlying intangible property rights. "Licensed product" will typically be defined to mean that product (possibly identified by name, size, capacity or other characteristics) which incorporates, in whole or part, any of the inventions covered by the licensed patents or any elements of the licensed know-how.

Intangible property rights may be licensed separately. It is not uncommon to encounter a patent, know-how or trademark agreement, especially in domestic Canadian agreements. International technology transfers more commonly involve a package of such rights. A brief discussion of patents, trademarks, industrial designs, copyright and know-how, taken separately, will give the reader some tools for dissecting and better understanding such a potentially confusing hybrid arrangement.



## 6.2 Patents

Patents are limited monopoly rights, created by a government, which confer on the owner the right to exclude others from making, using and selling the invention. A licensee must therefore obtain rights for each country in which he wishes to manufacture or sell products incorporating the patented invention. Merely by granting a patent licence, the patent owner does not technically convey anything, but only agrees, within specific terms, not to exercise his or her right to sue the licensee for infringement.

For practical purposes, a patent license is treated as a limited transfer of property for the life of the patent or a defined lesser term. In Canada, a patent has a life of 17 years from the date of grant. Proposed legislation would change this to 20 years from date of filing. Since patents contain a disclosure of how to practise an invention, they do not enjoy continuing protection as trade secrets after the term of protection expires.

"Licensed patents" are typically defined in the licence agreement as those patents listed by number and country on a schedule and any patents issuing from similarly listed patent applications. This definition may also be extended to include patents later applied for which constitute improvements or in some other way are related to those previously referred to. Whether or not the licence includes improvements or related inventions is an important planning and negotiating point to which we shall return.

The Canadian Patent Act requires exclusive patent licences to be registered in the Patent Office. However, no consequences result from failure to register, and in practice, such registration is the exception rather than the rule.

## 6.3 Trademarks

Registered trademarks are similar to patents in that they are limited monopoly rights protected by legislation.

A trademark must be registered in Canada before the mark can be validly licensed in Canada. An application for registration can be based on using or making known, or on proposing to use, a trademark in Canada, or on use and registration of the mark in the licensor's home country. If an application is based on proposed use, actual use of the trademark in Canada must begin before registration will issue. This use can be exercised by a licensee.

One important but often overlooked matter: a Canadian trademark registration can be invalidated if the trademark is used by a licensee without formally recording the licensee as a user of the trademark in the Canadian Trade Marks Office. All licensees of a trademark must therefore be recorded as registered users of the trademark. The principle of user registration is strictly enforced by Canadian courts and applies equally to subsidiaries and related companies of a licensor.

Registration is simple and inexpensive. A short "registered user agreement" containing pertinent details, including provision for quality control by the licensor, can be registered instead of the entire license agreement.

In Canada, title to registered trademarks may be preserved indefinitely so long as use of the mark continues and the registration is renewed every 15 years.

#### 6.4 Industrial Designs

Like patent and trademark rights, rights to an industrial design are created by statute. An industrial design is any original shape, pattern or ornamentation applied to a manufactured article, such as a table shape or fabric pattern. An industrial design must be filed and registered within 12 months of the date of its first public disclosure in Canada. Registration is valid for five years from the date of registration and may be renewed for one further five-year term.

Licences of industrial designs must be in writing but need not be registered. The Canadian Industrial Design Act requires that articles incorporating a registered design bear the name of the registered owners, the letters "Rd." and the year of registration of the design. If the article is physically difficult to mark, the information can be on an accompanying label.

#### 6.5 Copyright

In Canada, copyright exists for original literary, musical, dramatic and artistic works for the lifetime of the author plus 50 years after the author's death. For sound recordings and photographs the copyright life span is 50 years from fixation. There is some question in Canada whether copyright can exist in non-aesthetic matters. Copyright arises from creation of the work and does not depend on registration pursuant to the Copyright Act. Such registration creates certain presumptions in favor of the registered owner and facilitates the collection of damages against infringers. An application to register the copyright of a work may be filed at any time during the term of its existence. If the subject matter is capable of registration, either as a copyright or industrial design, and is to be multiplied by an industrial process, it must be protected as an industrial design.

#### 6.6 Unpatented Technology or Know-how

Unlike patents, trademarks, industrial designs and copyright, there is no statutory protection for know-how. The licensor is protected only by the terms of the agreement. In spite of this lack of legal status, know-how is very often the most valuable element in a licence. At the least, it tends to enhance the value of other licensed rights. Reciprocally, the contemporary licensing of patents, industrial designs and trademarks tends to provide the licensor with a statutory basis for exercising some control over the use of the licensed know-how.

Defining the licensed know-how in a particular licence agreement may be a demanding task. It is scarcely enough to refer, in circular fashion, to "all the data that are or will be provided by licensor to licensee under the agreement". The task is to design a definition which expresses the intention of the parties well enough to allow them to work out the technology transfer without including exhaustive detail or full disclosure in the agreement itself. The following examples from actual agreements are indicative of the approach.

### 6.6.1 Know-how Sample Definitions

"Licensed Know-How" means the accumulated knowledge, experience and information relating to the design and manufacture of a product, which on the effective date of this agreement the licensor has in its possession including, without limitation: unpatented and unpatentable discoveries, inventions, processes and formulae, and technical data such as drawings, designs, blueprints, plans, specifications, material lists and catalogues; process descriptions; operational manuals, engineering, technical and scientific reports; and, economic studies and reports.

"Licensed Know-How" shall mean all information and technology, written or unwritten, patentable or unpatentable, owned by a Licensor now or developed by a Licensor during the term of this License Agreement, relating to the development, use, manufacture and sale of Licensed Products including, without limiting the generality of the foregoing:

- all basic design data including design drawings;
- all specifications relating to manufacture and performance; and
- all test data and projections.

"Licensed Know-How" shall mean technical facts, data or advice, written or oral, in the form of reports, drawings, manuals, specifications, bills of materials, photographs and the like, relating to a product system or any of its components and processes, compositions or articles of manufacture, and apparatus utilized on a commercial scale by either of the Licensors in their manufacture, fabrication, testing, packaging, marketing, and filed installation of a product system or any of its components in the regular course of their business throughout the term of this Agreement; provided, however, that the Technical Information shall not include any of the following: (specific exclusions omitted).

Strictly speaking, the know-how which a licensor has the right to license, and for which fees are properly paid, is a know-how of a specialized, secret and proprietary nature. The licensee is at liberty, quite apart from the licence, to use any industrial know-how which he finds in the public domain. For this reason, agreement definitions usually make reference to the special secret and proprietary nature of the know-how which is being licensed. The term "trade secrets" is sometimes used to emphasize these characteristics.

The distinction between public and proprietary know-how is not always clear, and to avoid such a distinction some licence agreements will focus on the end product as well as the know-how required to produce it. The licensee should receive the right, among others, to manufacture, use and sell specified products of the licensor's design, incorporating its patented inventions or made to its specifications.

### 6.7 Description of the Parties

It is said that the essential elements of any contract are the parties, the property and the price. A clear and correct description of the parties to a licence agreement is indispensable. Corporate names should correspond exactly with the names shown on incorporating documents.



A division of a corporation cannot be a party to a contract. A common and useful practice is to identify, along with the corporate name of each party, its incorporating jurisdiction and principal place of business.

#### 6.8 The Preamble or Recitals

Recitals provide an opportunity to set the stage by describing the parties, their purpose in entering into the arrangement and their respective roles. Definitions and schedule references may appear in these recitals or be held in reserve for a separate definition section.

#### 6.9 Defined Terms

We have referred to the practice of developing defined terms such as "Licensed Product", "Licensed Patents", and "Licensed Know-How" for the purposes of a particular agreement. The use of such terms may appear formalistic and awkward until one becomes accustomed to it. It is, however, an excellent device for simplifying complex documents. Defined terms should be carefully chosen and consistently used. The kind and number of terms defined will vary from one agreement to another. As noted earlier, you should define the basis on which royalties will be calculated ("Gross Sales", "Net Sales", "Net Profits") and territorial coverage of the agreement ("Territory"). The period for which the licence is intended to be in force may be called the "Term". Indeed it may be useful to distinguish between the "Initial Term" and a "Renewal Term". Such terms can be "invented" whenever they would appear to serve a useful purpose.

#### 6.10 Use of Schedules

The appended schedule, sometimes referred to as an "exhibit", or "appendix", is another device for achieving clarity and simplicity. It allows for the segregation of property descriptions and excessively technical details such as royalty escalation formulas and minimum sales requirements so that the body of the agreement can focus on its basic intent.

#### 6.11 The Grant

Broadly speaking, a licence agreement embodies a licensor's commitment to grant licence rights and a licensee's reciprocal commitment to use such rights under the restrictions described in the agreement and to pay royalties. The grant therefore lies at the heart of the agreement and usually appears as the first operative clause following the definition of terms.

Assuming that the licence agreement covers all the forms of intangible property, the essential elements of the grant may be summarized as follows:

- right to use licensed patents, trademarks, industrial designs, copyrights and know-how;
- right to manufacture products embodying the patents, industrial designs and know-how and/or products of the licensor's design as defined in the agreement;
- right to sell such products.

A number of questions immediately arise. Where may each of the rights be exercised? Are they exclusive or not and, if so, does the licensor exclude himself as well as agreeing not to licence third parties? What about the licensee's right to sub-licence others? These questions may be resolved within the grant clause itself or under separate headings.

#### 6.12 Geographical Limitations on Licensee

Licensors usually protect themselves against competition at home and in other major markets in which they are active by confining the exploitation of licensed rights to a defined territory. They may also be under contractual obligations to protect their other licensees. Licensees, on the other hand, seek to obtain licensed rights in order to increase their own sale and profits and consequently have an interest in exploiting such rights in as much of their actual or potential market area as possible. Different considerations may apply to geographical limitations on manufacturing, selling, and sub-licensing.

Depending on the cost of transportation for products, restriction of manufacturing to Canada may be acceptable to the licensee. Restriction of sales to Canada is likely to be less acceptable. Such restrictions should not be accepted without fully considering the long-term consequences and exploring the licensor's degree of flexibility. The licensee may otherwise obtain access to foreign technology to increase the speed and reduce the cost of product development, or to increase productivity through diversification, only to find that his ability to reap the rewards of success is seriously limited by market restrictions.

One way in which the prospective licensee may strengthen his or her negotiating position is to examine the anti-trust laws of the licensor's home jurisdiction. Nations frequently try to regulate the behaviour of their nationals beyond their own territorial boundaries to prevent behavior which may have a domestic effect.

The United States and the western European nations of the European Economic Community all purport to exercise such jurisdiction over practices in restraint of trade or monopolization in export commerce. Practices such as export combination, exclusive dealing, price fixing, resale price maintenance and market allocations may all be caught under the extra-territorial enforcement of such legislation.

The vigor with which such laws have been enforced has led some countries to enact legislation which limits or blocks the effect of such legislation. Canada has considered but never adopted such blocking legislation. As a result, a prospective Canadian licensee should be aware that such legislation may well restrict the licensor's ability to require its licensees to enter into agreements containing what might be considered restrictive trade practices in the licensor's own country.



6.13 Exclusivity

Canadian licensees should try to negotiate exclusive rights to manufacture and sell in Canada and other desirable markets not serviced by the licensor and non-exclusive rights to sell in other markets. Flexibility may be provided by leaving the agreement silent on the matter of export sales.

Unfortunately, domestic market exclusivity and territorial marketing restrictions often go together. If this is so, a potential licensee might well consider forfeiting the advantages of exclusivity in order to secure wider markets. At the least, the Canadian licensee should ensure that any limitations on sales outside a defined territory apply only to products incorporating the licensed rights.

6.14 Right to Sub-licence

Whether sub-licencing will be sought or allowed, and under what circumstances, will vary greatly from one situation to another. Licensors may look upon a grant of sub-licensing rights as a means of promoting wider exploitation of the licence rights or as a dangerous further dilution of the licensor's control of his intellectual property. The licensee may seek the right to sub-licence to permit him to subcontract the construction of components or to move manufacturing closer to markets within his territory.

The need to record all users of a trademark in the Canadian Trade Marks Office applies as well to sub-licensees. Failure to officially record a sub-licensee may invalidate a trademark registration. In theory, trademark sub-licences as such are not registrable. Some device must be found for the sublicensee to receive a grant of trademark user privileges directly from the registered owner.

6.15 Duration

The parties to a licensing arrangement commit themselves to a continuing relationship which involves both substantial advantages and onerous obligations. Terms relating to duration are among the most critical. Often, both parties are seeking a congenial, long-term arrangement. Occasionally they are prepared to contract absolutely for a period of many years or for a licence in perpetuity. More often, a system is established for periodic review.

A common practice is to define an initial term with automatic extension for one or more renewal terms unless, within some specified time or before an expiry date, one party gives the other written notice of its intention to terminate. Automatic renewal may only be effective if certain conditions in the original licence have been satisfied. One variation is to specify a term with a provision that, at its conclusion, the parties will enter into good faith negotiations with a view to renewal. These devices establish a basis for continuity but do not give either party an assurance that the licence will extend beyond the specified term.

Frequently the interests of the parties in relation to duration differ. The classic case is that of the licensor for whom the licence is a preliminary step in a long-term strategy for direct involvement in the licensee's territory. In these circumstances the licensor may offer a shorter licence term than the licensee is prepared to accept. The reverse situation may exist where the licensee is seeking outside technology to shorten development time or to overcome a particular technological problem. When these objectives have been realized, he may no longer need the license and wish to be free of the royalty payments, market restrictions, feedback licensing arrangements and other obligations. Heavy start-up and maintenance costs on the part of the licensee will necessarily militate in favor of a longer licence term. Long-term business strategy must invariably be taken into account.

The licence agreement will provide for premature termination, either automatically in events such as the bankruptcy or insolvency of one of the parties, or at the option of one party in the event of specified defaults by the other. Such events may include a failure by the licensee to make prompt payment of royalties or failure by the licensor to deliver updated technology or the technical assistance contracted for.

An often unnoticed or underestimated hazard for licensees is the rapid pace of technological change. A long-term licensing arrangement, particularly one which provides for substantial minimum royalties, will prove onerous if the licensed technology becomes obsolete. This observation emphasizes the necessity for extreme care in selecting the licensed technology.

#### 6.16 Grant of Rights in Licensor's Future Improvements

One of the fundamental choices in licensing is whether or not future refinements or improvements made by the licensor will be included in the grant. Once the choice is made, it may be reflected merely in the definition of the licensed rights or in more specific contractual provisions. Rights to future technology may take the form of an option to acquire a right of first refusal rather than an automatic inclusion in the original grant. They may be exclusive or non-exclusive.

The inclusion of future rights provisions in the licence agreement may appear to represent an unmitigated benefit to the licensee. Indeed, in many instances such provisions are considered indispensable to achievement of the licensee's goals. The majority of licence agreements which we have reviewed contain such provisions.

The recipient of a future rights clause may have difficulty in resisting the licensor's request for a "flowback" clause granting the licensor rights in the licensee's related research and development. Flowback provisions may act as a deterrent on the licensee's own research and development. The grant of future rights also strengthens the licensor's hand in negotiations for manufacturing location and market restrictions.

Potential licensees should be prepared for negotiations reflecting these tradeoffs. According to recent research, diversified licensors - those companies whose sales are composed of numerous unrelated or loosely related products - impose fewer license restrictions than dominant product licensors, whose sales for the most part are related to single or related products, even when rights to future technology are granted.

Future technology grants may carry a price in terms of royalty rate, but there is reason to believe that this is less common in practice than might be supposed. If the price of future technology, in financial terms or trade-off concessions, is too high, the licensee faces the choice of refusing the licence rights offered or resolving to license current technology only and compete with the licensor in maintaining and improving the technology.

#### 6.17 Flowback Agreements

We have referred to "flowback" clauses whereby some benefits of improvements made by the licensee revert to the licensor. A common negotiating position on the part of licensors is to demand that such improvements automatically become the property of the licensor or, at the licensor's option, become available to the licensor on an exclusive royalty-free basis. The inclusion of such a clause is not invariable, however. Licensees may negotiate to license their improvements back to the licensor on an exclusive or non-exclusive basis at an agreed royalty rate. A "grant back" to the licensor may extend beyond the term or territory of the original agreement.

#### 6.18 Royalties

Licensing is characterized by the royalty form of payment. Royalties are periodic payments based in some manner on use of the licensed rights.

The relationship of payment to use can be established in a variety of ways. Probably the simplest form of royalty, frequently seen in the recording and book publishing industries, is a fixed amount per unit sold. This formula may be appropriate where the product can be clearly identified and the royalty applies to limited quantities or for a limited period of time. It is not usually a satisfactory approach in an industrial situation. Some of the alternatives are discussed below.

##### 6.18.1 Percentage of Sales

The most common form of royalty mechanism is a percentage of gross or net sales. This may be prefaced by one or more lump sum payments which serve as earnest money and as a contribution to the licensor's costs of negotiating the arrangement and implementing the initial transfer. The royalty rate may be fixed or variable. For example, the rate may progressively decrease as sales volumes increase. Such graduated sales enable a licensee to reduce the impact of royalties while providing him with an incentive for maximizing volume.

The "royalty base" should be well considered. A simple reference to "gross sales" may sometimes suffice, since gross sales figures can ordinarily be determined by inspecting the licensee's accounts. However, a more common practice is to specify ways in which the gross sales figure is to be adjusted before royalties are calculated. Such adjustments may include deductions for such items as commodity taxes, customs duties, commissions, trade discounts, packing charges, transportation charges or insurance costs. The result is a "net sales" figure. Use of a defined term to describe the royalty base can simplify the vital royalty payments clauses of the license agreement.



Various devices may help to guard against contingencies. For example, the licensor may insist that the initial sales figure be based on published price lists or other evidence of fair market value to guard against a dilution of royalties when the licensee sells at discounted prices.

#### 6.18.2 Royalty Based on Production

In some instances, the sale price of goods sold may not be considered a sufficiently accurate measure of technology use. One alternative is to calculate the royalty as a fixed amount per unit of product manufactured or by reference to weight, volume or other indicators of output. A production basis inevitably favors the licensor because royalties are calculated at an earlier point in the industrial cycle and paid on stockpiled inventories, which may become obsolete, on products or components used by the licensee, and on returns from purchasers.

#### 6.18.3 Percentage of Net Profit

Royalties based on licensee profits are rare. Their use implies substantial confidence in the licensee's manner of exploiting the licensed rights and accounting for profits. This method usually requires a detailed understanding as to the manner in which profits will be calculated. This may be difficult since the licensee's operations under the license may not represent his entire business undertaking, and in practice, profits are not always calculated on a product line basis.

The use of profits as a royalty base tends to move the arrangement into a hybrid category midway between licensing and joint venture, as the licensor is likely to feel impelled to take a more direct interest in management of the licensee's business to protect his "equity".

#### 6.18.4 Lump Sum Payments

A predetermined lump sum payment is not considered to be a royalty in the true sense, even if payable by instalments, because the amount is not related to use. For the limited purpose of charging the licensor a withholding tax, some such payments may be brought within the meaning of royalty as noted elsewhere. In rare instances, lump sum payments may be appropriate to the circumstances. Certainly they are simpler than any other form of consideration for intellectual property rights from an accounting point of view. Presumably, the amounts will usually be based on pre-estimates of sales or profits.

#### 6.18.5 Payment-Free Licenses

The licensor's motive in granting license rights may not always be to earn a monetary consideration. Licensor and licensee may enter into a complete cross-licensing agreement, for example, whereby each becomes entitled to use the technology of the other in a specified territory without additional consideration. The motive is to promote an active, ongoing two-way flow of data.

#### 6.18.6 Determining the Royalty Rate

Having decided upon an appropriate royalty base, the parties must agree upon a rate. There are no hard and fast rules governing royalty rates. This is because there is rarely a clearly-defined market for intellectual property as there is for most tangible products. It is usually the licensor who opens negotiations by suggesting a royalty rate. Many licensors rely primarily on more or less established industry norms. This is especially true where the technology is mature and relatively homogenous.

The licensor's demands may reflect his research and development expenditures or the anticipated profits of an alternative investment. These are factors peculiarly within the knowledge or perception of the licensor and consequently may not be openly disclosed in negotiations with the licensee.

A more objective approach is to estimate how the royalty will allocate actual profits from exploitation of the licensed rights. Curiously, in practice, parties to a proposed licence do not appear to make in-depth studies of this factor.

Basically, the process of fixing royalty rates is one of negotiation, with each party making its own analysis as to the value of the transaction. It might be imagined that the licensor is likely to have a carefully considered position and a narrow range of flexibility with respect to the negotiation of royalty rates. Surprisingly, experience as well as published research indicate that the range is much wider than might be expected.

#### 6.18.7 Other Issues in Writing Royalty Clauses

Depending on the royalty base selected, it may be important to identify the point at which an item is considered to have been manufactured or at which a sale has occurred, the time at which the obligation to pay the royalty arises, and the method of payment.

#### 6.18.8 Royalty Escalation Clause

The licensor may take the position that lump sum payments, minimum royalties, minimum sales quotas and other payments and obligations of the licensee should be subject to an escalation clause based on fluctuations in some published index, such as the Consumer Price Index. Invariably such clauses are initially proposed for the benefit of the licensor. Since the licensor is primarily interested in upward adjustment, licensees who find they must accept escalation clauses should ensure that downward fluctuations are also adjusted to their benefit.

A licensee's right to renew the licence for a further term may also be based on minimum sales quotas as adjusted by fluctuations in the Consumer Price Index. Such terms are common in licence agreements in the clothing industry. Fluctuations are usually taken into account in multiples of 10percent from a defined base point.

Other indices are used in various industries. They must usually be published at specified intervals and compiled by a neutral party such as government or an industry association.



#### 6.18.9 Designation of Currency for Payment of Royalties

Today, wide fluctuations of monetary exchange rates are prevalent. In most licence agreements, the licensee is obliged to pay royalties to the licensor in the latter's domestic currency. It is commonplace for the parties to agree that conversion to the currency of payment must be at the rate of exchange on the due date of payment, tied to an internationally recognized and published exchange rate or based on the average exchange rate for a specified period. An alternative is for payments to be made in a stable currency such as US dollars, although this is not common. The most favourable position for the Canadian licensee is for payments to be calculated in Canadian dollars since this is the currency in which his sales and profits are calculated.

#### 6.19 Minimum Performance Requirements

In the interest of exploiting the licence potential to its fullest capacity, the licensor will demand that the licensee use his best efforts to create and supply the most extensive market possible for licensed products. Having foregone the opportunity to sell his products in the licensee's territory, the licensor will require some reassurance that the licensee will work the licensed rights. In addition, world-wide promotion may be supported by sales and advertising in the licensed territory. Home country legislation may also require working of the licensed technology to preserve the licensor's monopoly.

Imprecise "best efforts" provisions may not provide enough protection for the licensor, who may require that the licensee meet minimum sales standards or quotas. Such minimums may be related to royalty payments or unit sales volumes but can include the employment of named personnel or fixed expenditures for advertising and promotion. In this regard, royalty incentive clauses are common and may result in lower royalty payments at specified sales levels.

The question then arises: What will be the consequences of a failure to meet minimum requirements? An obvious choice is termination of the agreement. Mere termination, however, may not serve the licensor's interests but merely leave him with neither licensee nor compensation for the licensee's failure to perform. Some alternatives to termination are the licensor's re-entry in the market territory, conversion of the licence from exclusive to non-exclusive, or a reduction in the size of the licensee's territory.

#### 6.20 Licensor as Component Supplier

The supply of key components by the licensor may benefit both parties. To the licensor, it is likely to be an additional source of revenue; to the licensee, an economical source or possibly his only source. On the other hand, the interests of the parties may diverge, as when the licensee finds alternative domestic or other sources or becomes capable of manufacturing components previously purchased. Contractual provisions on this subject usually provide for close consultation and may merely establish general intention and a framework of price and delivery terms for supply arrangements to be negotiated in more detail from time to time. In some cases, the purchase of components or raw materials may be up to the licensee.

The sale and purchase of components may affect other aspects of the agreement. For example, achievement of specified purchase levels may reduce minimum royalties.

Remember that "tied sales" are a reviewable trade practice (Section 5.1.3). It is advisable to obtain a legal opinion that such an arrangement is permissible.

#### 6.20.1 Production Machinery

The licensor may also be the best source for specialized machinery required at startup, or may be in a position to introduce the licensee to its suppliers. Prospective licensees should anticipate their needs and include this item in their negotiations.

#### 6.21 Protection of Licensed Rights

Licensors are concerned to protect their intangible property rights against both the licensee and third parties. However, such protection is not solely a licensor concern. The licensee also has an interest in maintaining a relationship of trust and confidence between himself and the licensor and in reassuring the licensor that the latter's underlying property rights are secure. Licensor and licensee have a common interest in protecting the licensed rights against incursions by third parties.

##### 6.21.1 Protection of Licensed Rights Against Third Parties

Since the title to licensed rights remains with the licensor, it is his prerogative to take legal action against interlopers. He will ordinarily have an interest in doing so. However, the licensor's level of commitment to an aggressive program of protection may be lower than the licensee would desire. The licensor, after all, is located some distance away, and his economic interest in the sale of licensed products in the licensee's territory is only indirect. Moreover, the protection of intangible property rights can be an expensive and frustrating process involving many judgment calls.

Licensors may nevertheless attempt to retain the option of deciding whether or not an action for infringement of the licensed rights will be initiated. It is not uncommon to see licence provisions which specify that the licensee is responsible for costs in the event of such proceedings, with damages in the event of success going in whole or in part to the licensor. Licensees are well advised to negotiate vigorously for fair and balanced treatment on these issues.

There are several ways of dealing with these matters. While an action for infringement must be conducted in the name of the licensor, actual carriage may be undertaken by either or both parties. The parties should anticipate their needs and clearly express their intentions. The agreement should also allocate responsibility for the expenses of litigation and entitlement to any damages which may be awarded. These points do not exhaust of the subject. The most critical term, from the licensee's standpoint, is the right to commence legal action in the name of the licensor to protect the licensed rights if the licensor is unwilling or unable to do so.

## 6.22 Title Retention and Acknowledgement of Value

Most licensors insist on a clause in the licence agreement which provides that licensed rights remain the property of the licensor and that the licensee will at no time dispute his licensor's title.

Recently, licensors have also begun to demand that the licensee acknowledge the trade information of the licensor as a valuable asset, and that any breach of the secrecy provisions by the licensee will result in damages to the licensor. The insertion of such a clause precludes a licensee from asserting that the know-how of the licensor was of little or no value and facilitates a claim for substantial damages.

## 6.23 Confidentiality Regarding Know-how

A licensee will ordinarily be required to agree not to disclose the information, know-how or secret processes he acquires from the licensor except as necessary for the proper manufacture or distribution of the licensed products. In order to protect confidential information, the licensor sometimes demands that the licensee extract from each employee, sub-licensee and subcontractor an equivalent undertaking of secrecy and confidentiality.

Some trade secrets may be disclosed before a formal license agreement is entered into. In projecting the feasibility costs and potential profits under a licensed operation, the licensor may reveal practical know-how including, in many cases, specifications, blueprints and cost data. This is ordinarily done after the licensor is comfortable concerning the general integrity and good faith of the potential licensee. The possibility, however, that negotiations will break down after valuable know-how has been disclosed has led some corporations to follow a practice of requiring the potential licensee to sign a brief preliminary agreement which makes it clear that:

- the specifications and other know-how are being supplied for negotiating purposes only;
- information is and will remain the property of the licensor;
- the information will not be used in any way contrary to the licensor's interest;
- copies or extracts of the information may be made only with the express consent of the owner; and
- such information must be returned to the licensor on request.

Confidentiality obligations are usually intended to extend beyond the life of the licence agreement. In addition to the obligation to return all technical information and data to the licensor on termination, the licensee may be required to agree not to reveal at any time, before or after termination of the licence agreement, any information acquired as a result of the licence relationship.



#### 6.24 Quality Control

Quality control commitments may be relatively unimportant in a bare patent license, but they are a major concern in more complex licensing arrangements where both parties may have a vital interest in preserving goodwill and the international reputation of the licensed products.

If the licensee's output is to be identified with the licensor's own products or corporate name, the licensor will insist that the licensee maintains quality standards that do not detract from its reputation or the goodwill and market acceptance built up in world markets. Where trademarks are not involved, a licensor may not insist on strict adherence to its domestic designs and specifications. This will depend on its general marketing policy.

Quality control clauses generally include the following obligations:

- to manufacture licensed products in accordance with standards, specifications and manufacturing directions supplied by the licensor;
- to provide the licensor periodically with samples for inspection;
- to make promptly any such changes in the products, manufacturing procedures or raw materials used as the licensor may reasonably request; and
- to permit inspection by the licensor of the licensee's manufacturing and warehouse facilities.

#### 6.25 Compulsory Licensing

A patentee's monopoly is subject to certain conditions. A patentee may not abuse his rights, for example, by not working his invention in Canada within three years of its issuance or by using his patent to lessen competition outside the patent monopoly. Such abuses can result in the granting of a compulsory license to a third party to work the patent.

Compulsory licenses are also granted, almost arbitrarily, to qualified applicants in respect to patents relating to food and medicinal preparations. There is no need for an applicant seeking a compulsory license for these types of patents to demonstrate previous patent abuse. The Canadian government believes that the availability of compulsory licensing in the food and drug areas is necessary to ensure competition in these industries, thereby resulting in better access and lower prices to the public.

However, the law as it relates to the compulsory licensing of medicinal preparations may soon be changed. Amendments to the Patent Act are currently being debated by Parliament and will, if passed, grant patents of pharmaceutical products up to 10 years of market exclusivity. Under the proposed amendments, generic drug companies will not be able to manufacture a patented drug until seven years after its initial introduction onto the Canadian market. And a further three years will have to go by before they can import the drug without restriction.

There will be an exception for drugs which are the product of research performed in Canada. They will be given protection from imported generic competitors for the full life of the patent, provided the patent holder manufactures the drug in Canada. If not, after the same seven year period as for non-Canadian drugs, generic firms will be free to manufacture the drug.

#### 6.26 Most-favoured-licensee Clause

Some circumstances may lead the licensee to negotiate for a most-favoured-licensee (MFL) status. This means that the licensee becomes entitled to the most favourable rate of royalty which the licensor grants to any of its licensees, although it may also apply to other terms. We have found such clauses to be the exception rather than the rule.

Generally speaking, the type of situation which best lends itself to MFL treatment is one in which the technology being licensed is part of a standardized package of technology whereby equivalent licenses are granted to many licensees. It is only where the grants are equivalent that it is possible to compare payment of royalties.

MFL clauses will primarily interest those whose licensing arrangements are likely to be custom-tailored to satisfy specific requirements. One situation where the MFL clause may be a necessity is when the licensee has agreed to a non-exclusive grant. In this case, the licensee will need such a clause to guarantee his ability to compete on an equal basis with other licensees or the licensor itself. Without such a clause in the licensee's agreement, there is no obligation under Canadian law to oblige a licensor to charge the same, or even substantially the same, royalty to every licensee.

MFL clauses may be made to apply not only to future licence arrangements entered into by the licensor but also to licenses previously granted.

#### 6.27 Applicable Language

In an international licence agreement, it may be advisable to specify the language of the agreement as the official one and the one that will ultimately govern the rights of the parties. Many international licence agreements provide that the English version of the agreement is the official version.

#### 6.28 Assignability

The question whether the licensee may freely transfer the licence to another party deserves more attention than it usually receives. Almost invariably the licensor wishes to limit assignability of the licence by insertion of a clause providing that the rights granted may not be assigned or transferred without the licensor's prior written consent. A supporting clause may state that any attempted assignment without such consent is to be void and shall have the effect of automatically terminating all the rights of the licensee under the agreement. Denial of the right to assign may not be indispensable in every set of circumstances. A standard ploy which the licensee may introduce in an effort to reach middle ground is to leave the consent clause as written but add that the licensor's consent is not to be unreasonably withheld. This provides the licensee with an opportunity to contest the objective reasonableness of a licensor's refusal to consent before a court.



## 6.29 Official Notices

The names and addresses to which official notices under the license agreement are to be directed should be clearly stated. The common alternatives for delivery of such notices are prepaid mail, telex, or personal delivery.

The parties must decide on a method of establishing the date of receipt of the notice. For example, if service is by mail, the receiving party may be deemed to have received the notice a given number of days after the notice was posted; in the case of a telex, when the sender receives the answerback code; in the case of personal delivery, on actual delivery.

As postal interruptions are increasingly commonplace, some parties insert a provision that in the event of an interruption of mail service, all notices are to be delivered by telex or personal courier.

## 7 TECHNICAL ASSISTANCE

### 7.1 Nature of Technical Assistance

Technology transfers can rarely be implemented effectively by mere transmittal of documents or other material. Some direct personal interaction of the technical personnel of transferor and transferee is likely to be required. Sometimes the transferor's assistance may extend to various aspects of management or accounting. The transferee should be alert to his needs for such assistance and ensure that the documentation makes adequate provision for it on acceptable terms.

#### 7.1.1 Technical Transfer May Be Structured as Technical Assistance

Occasionally, the entire transfer arrangement takes the form of technical assistance. In such cases, a lump sum payment may still be exacted, but ongoing payments will relate to individual time inputs or achievement of definable implementation objectives rather than to use of licensed rights. This arrangement may be suitable for the transfer of technology to a joint venture in which one party supplies technology as the basis for his equity participation. Although not seeking to exact a continuing royalty, he may wish to be reimbursed for the expense of diverting his own labor force.

#### 7.1.2 Technical Assistance Usually Provided Under Separate Agreement

Technical assistance clauses may be included in the licence agreement, so that the document itself may be entitled "Licensing and Technical Assistance Agreement". There is no legal requirement that these companion elements of the arrangement, the know-how and "show-how" as they are sometimes labelled, be dealt with in separate contracts. Such separation is the general rule, however, where technical assistance is a significant factor.

### 7.1.3 Terms of Agreement

The technical assistance agreement should define with great precision the nature, extent, times and places of the assistance to be provided. The process may involve sequential or overlapping phases, including visits by members of the licensee's staff to the licensor's plant for on-site training, reciprocal visits by the licensor's personnel to the licensee's plant, transfer of such personnel to the licensee's staff for a sustained period, and services performed by the licensor independently in his own facility for the benefit of the licensee.

### 7.1.4 Payment Terms

Since technical assistance is usually in aid of a licensing or joint venture arrangement, the approach to remuneration is often one of reimbursing expenses rather than attempting to realize a profit. Thus, a typical payment provision would be one requiring the licensee to reimburse the licensor for all costs wholly attributable to assigned personnel at specified per diem rates, plus travelling and living expenses. If the licensee requires technical assistance only for limited purposes during a startup period, he may take the position that such assistance is entirely supplemental to the basic transfer of technology under the license and ought to be provided at the licensor's expense. Frequently, the agreement creates a rather open-ended framework within which the licensee may call upon the licensor for assistance according to his needs but conditional upon the licensor's ability or willingness to provide such help.

### 7.1.5 Immigration Requirements

An extraneous matter to the technical services agreement, but one which must not be overlooked, is the necessity to obtain Canadian visas for foreign workers. Situations may arise in which representatives of a technology supplier may visit Canada for such a limited purpose and duration that only visitor's status is appropriate. A non-Canadian intending to work in Canada must seek either a temporary employment authorization or permanent resident status, depending on the circumstances of his assignment. It is advisable to seek advice from the Canadian immigration service or legal counsel as to the type of authorization required and appropriate procedures.

Except for special categories of persons who are exempted, including key executives transferring with a related corporate group, confirmation from a Canada Employment Centre within Canada that the position cannot be satisfactorily filled from the Canadian domestic work force is the first step. This confirmation may then support an application to the Canadian immigration service abroad for the appropriate visa. The confirmation of an offer of employment is issued to the corporation or other business entity seeking to employ a foreign worker, whereas the employment authorization itself is issued by the Canadian immigration service, outside Canada, to the worker himself. Each provincial government has a department that will advise commercial enterprises with regard to problems of international personnel transfers.

Once an employment authorization is obtained, it can be renewed within Canada on a yearly (or shorter) basis so long as the extension is justified by the original purpose, but usually not for an aggregate period exceeding three years. Temporary employment authorizations issued to a married person do not entitle his spouse or children to work in Canada, unless they qualify for such authorization in their own right. This is a significant difference from permanent resident status, which applies to the spouse and qualified children (under 21 at date of application) and confers the right to accept employment on all family members.

In practice, permanent resident status is obtained through a process similar to that for temporary work authorization, but somewhat more rigorous and normally requiring a substantially longer period for processing. It is not appropriate unless the transferring party is being assigned to Canada for an indefinite period.

## 8 TAX FACTORS AFFECTING TRANSFERS TO CANADA

### 8.1 Tax Factors Affecting Transfers of Technology to Canada from Abroad

In this section, we summarize the Canadian taxing provisions which most often apply to technology transfers from abroad by way of licensing and technical assistance arrangements. Tax laws in the country of transfer will also come into play and may have a bearing on the transferor's preferences as to how the arrangement should be structured. For instance, he may have an opportunity to characterize the consideration which he receives as a capital gain instead of an income receipt. This characterization would probably suit his interest because capital gains are usually taxed at a lower rate than ordinary income. The Canadian transferee, on the other hand, will obtain a larger tax deduction if his payments are characterized as payments on income rather than capital account.

#### 8.1.1 Licensee's Tax Position

A Canadian licensee will wish to deduct the consideration paid for licence rights and technical assistance to the maximum extent possible for tax purposes. The deductibility of such amounts is not usually in question. They are ordinarily characterized as royalties or payments for services, and in either event are fully deductible.

There may be circumstances in which deductibility is more limited. Particularly where lump sum payments are involved, the licensee should seek professional advice with regard to tax treatment. While in special circumstances even lump sum payments for the transfer of technology may be treated as royalties paid on income account, they are more likely to be characterized as capital expenditures. As such, they are depreciable on a straight-line basis over the life of the license. Details on this subject may be found in Revenue Canada Interpretation Bulletin No. IT-477.



### 8.1.2 Licensor's Tax Position

Technology transfers should be scrutinized carefully to ensure that no amount paid by the transferee is unnecessarily or inadvertently subjected to Canadian withholding tax. Royalties paid or credited by a Canadian resident to a non-resident are subject to Canadian withholding tax. This tax is imposed at a rate of 25 percent under the Income Tax Act, but this rate is reduced to 10 or 15 percent for payments to persons resident in those countries with which Canada has entered into tax treaties.

### 8.2 Technical Services Rendered in Canada

The rendering of technical services in Canada by the employee of a foreign licensor is likely to constitute "carrying on business in Canada" within the meaning of the Income Tax Act. While under the act the profits of such businesses are taxable in Canada at full corporate rates, the Income Tax Act is subject to the provisions of Canada's income tax treaties with other countries. Such treaties invariably provide that the commercial and industrial profits realized by a resident of the other country are taxable by Canada only if the non-resident maintains a "permanent establishment" in Canada. Most foreign licensors from treaty countries will wish to avail themselves of treaty protection by taking appropriate precautions to ensure that the activities of their employees or agents in Canada do not create a permanent establishment.

While full discussion of the term "permanent establishment" is beyond the scope of this chapter, we suggest that foreign companies rendering technical assistance in Canada and not desiring to create a permanent establishment generally observe operating procedures such as the following:

- They do not establish their own office, laboratory or plant facilities, but rather utilize the facilities of the licensee.
- They do not enter telephone or other business listings and have no door plaques or business cards identifying a place of business in Canada; the use of telephone answering services is not out of the question but is rarely required.
- The employees and agents of the licensor are not given general authority to contract for the licensor and do not purport to exercise any such authority.

These procedures may vary depending upon the definition of "permanent establishment" found in the particular tax treaty which Canada has negotiated with the country in which the licensor is resident. In those cases where no tax treaty exists, virtually any business activity of the licensor's employees or agents in Canada will be found to constitute carrying on business, with the result that any resulting profits will be taxable in Canada.

Although the licensor rendering technical assistance may not be subject to Canadian taxation, Canadian residents who make payments to non-residents for services rendered in Canada are required to withhold and remit 15 percent of such payments to the Receiver General of Canada.

At the end of each year, the licensor must file a tax return, establish to the satisfaction of Revenue Canada that it is entitled to the benefit of a tax treaty, and claim a refund of the amount withheld. Licensors should be made aware that one of the grounds for obtaining such a refund is that the payments from which amounts were withheld represent industrial and commercial profits and not royalties, i.e. payments for technical services and not for the use of intellectual property. This is one of the reasons for preparing technical assistance agreements and devoting attention to the characterization of the services being rendered as separate from the transfer of technology provided for in the licence agreement.

### 8.3 Services Rendered by the Licensor in its Own Country

It is not uncommon for a transferor of technology to render some services to the transferee in the transferor's home country, for which a separate service charge may be levied. Such services will not constitute carrying on business in Canada, and payments for such services will not be taxed on that basis. If the services are managerial or administrative in nature, the payments may attract Canadian withholding tax as discussed under the next heading. Withholding tax is also levied on payments by a resident of Canada to a non-resident in connection with services of an industrial, commercial or scientific nature without reference to the status of such services, where payment is based in whole or in part on:

- the use to be made of the services or the benefit to be derived from same;
- the production or sales of goods and services; or
- profits.

Payments for the transferor's services ordinarily do not come within one of these categories.

### 8.4 Management or Administration Fees

Management and administration fees paid or credited by a Canadian resident to a non-resident are subject to a withholding tax equivalent to the withholding tax on royalties. It is our experience that the services rendered in assistance of technology transfers between unrelated parties are not usually of a management or administrative nature. However, for cases in which such services are provided, it is important to know that the withholding tax is not dependent on the location of the services but applies whether or not the services are performed in Canada. Under an exempting provision, a payment for services that include management or administration will not be subject to withholding tax in Canada if either:

- the services performed by the non-resident were performed in the course of a business carried on by him that included the performance of such services for a fee and the parties were dealing at arm's length; or
- the payment was made to reimburse the non-resident for reasonable expenses incurred on behalf of the Canadian residents.



### 9.31 Winding-up

If the differences between the parties cannot be resolved by informal negotiations or by mechanisms provided for in the joint venture, one party to a joint venture may apply to the court, under the authority of the incorporating statute, for an order appointing a receiver to wind up the corporation. The Ontario statute provides that the court may make such an order in situations (among others) where it is satisfied that a unanimous shareholder agreement entitled a complaining shareholder to demand dissolution after the occurrence of a specified event which has occurred, or when it is "just and equitable" for some reason other than bankruptcy or insolvency that the corporation be wound up.

Winding-up by court order is a last resort. The proceedings may be long, bitter, and expensive. They almost certainly attract unwanted publicity. Moreover, the outcome is likely to be less satisfactory to either party than a negotiated or arbitrated settlement.

### 9.32 Effect of Termination

However remote termination may seem at the outset, adequate provision must be made for eventual termination. The most important matters to be anticipated are the further use of the name given to the venture, distribution of property (including the return of technology), and maintenance of confidentiality.

## 10 TAX FACTORS AFFECTING CANADIAN JOINT VENTURES

Chapter 10, Taxation, provides a summary of the main components of the Canadian tax system. The section below outlines two tax provisions which are particularly relevant to joint venture participant, namely: the basis for income taxation and withholding tax on payments to non-residents. For more information on other tax provisions, the reader is referred to Chapter 10. It should be noted, however, that only the main components of the tax system are described in that chapter, and potential joint venture participants are urged to obtain professional advice on tax matters in structuring and implementing a joint venture.

### 10.1 Basis of Taxation

#### 10.1.1 Residence

A corporation resident in Canada is subject to Canadian income tax on its world-wide income. A corporation incorporated and carrying on business in Canada is presumed to be resident. Based on these principles, a Canadian joint venture corporation is subject to the basic scheme of Canadian corporate income taxation as described in Chapter 10 (Taxation).

Even if the Canadian joint venture as such is unincorporated, it is common for the foreign investor to form a Canadian subsidiary corporation which becomes the actual joint venture participant. The same basic principles of Canadian corporate income taxation apply to such a corporation.

10.1.2 Partnership

If joint venturers decide to carry on business as partners, the income (or loss) of the business will be calculated at the partnership level as if the partnership were a separate person. All applicable deductions from the partnership business must be taken at the partnership level. Liability for tax on partnership profits, however, flows through to the members in accordance with their entitlement to the profits or losses of the partnership.

10.2 Withholding Tax on Payments to Non-residents

A withholding tax is generally levied on payments to a non-resident individual or corporation, for payments of dividends, interest, salaries, commissions, royalties or other amounts for services rendered. The statutory rate of Canadian withholding tax is 25percent, but this is generally reduced to 15percent for payments to residents of countries which have signed a tax treaty with Canada. These countries are listed in section 5.1.4.

10.2.1 Withholding Tax on Royalties

If joint venture arrangements include a licence from the foreign participant to the venture under which royalties are payable, withholding tax will be payable to Canada as these royalties are paid. (See also section 8.1 of this chapter).

10.2.2 Withholding Tax on Management Fees

A foreign joint venture partner sometimes expresses interest in extracting compensation from the venture on a pre-tax basis in the form of management or administration fees. A discussion of management and administration fees appears in section 8.4.

10.2.3 Withholding Tax on Dividends

Dividends paid by a Canadian corporation to a foreign shareholder are subject to Canadian withholding tax.

Such mechanisms may operate at different levels. For instance, the corporation's by-laws may provide for one director to have a casting vote. To make such a provision as fair as possible, the power to exercise a vote may be passed between nominees of the parties on a rotating basis or vested in a "neutral" board member. More drastic mechanisms for dealing with deadlock situations are those which result in a buy-out of one participant by another, introduction of a new party, or winding up the venture.

#### 9.27 Right of First Refusal

Most business people are familiar with the term "right of first refusal". There are two basic approaches to granting such rights. One is to require the participant wishing to sell to give the other the right to match third-party offers. This is often thought to be a drawback of the right of refusal device because third parties may be reluctant to make offers subject to a prior right of refusal. This may not be a deficiency in the joint venture context, however, where it is rarely in the participant's interest to facilitate sales to third parties. Another difficulty of the right of first refusal lies in establishing the bona fides of the third-party offer.

The second approach is to provide a formula for determination of the buy-out price. It is then provided that one participant may offer his interest in the venture to the other at the predetermined price and on such other terms as the agreement provides. If this offer to sell is not accepted, the offering party is free, for some period, to sell to a third party on the same basis. Establishing a formula for fixing the buy-out price may present difficulties. Some alternatives are book value, capitalized earnings, appraised value or some variation of these. Another choice is to leave valuation to an independent third party.

For some reason, right of first refusal clauses are among those most often found to be badly drafted. The idea seems to be prevalent that brief mention of the concept itself is sufficient to create all necessary rights and obligations. This is not the case. The specific intentions of the parties must be spelled out in detail. It is particularly important to identify the extent or limitations of the rights and to provide appropriate mechanisms for administration.

#### 9.28 Joint Venture Corporation Purchase of its Own Shares

Either of the devices referred to in the preceding paragraph may be structured in such a way that the joint venture corporation itself is the purchaser. This arrangement is a convenient way to maintain proportionate joint venture interests for the remaining parties in a multiple-party venture.

#### 9.29 The Buy-sell Clause

The put-sell or buy-sell arrangement is a traditional device for orderly disengagement. Under this procedure, one party gives notice of a desire to buy or sell his interests in the joint venture and proposes a price per share for such a transaction. The party receiving such an offer must then agree to purchase the shares of the offeror or sell its own shares at the same price. Buy-sell provisions are usually very detailed, providing for terms of payment, mechanics of share transfer, settlement of obligations between the selling shareholder and the corporation, and other details.

Buy-sell provisions are so common that there is a tendency to introduce them without sufficient forethought. They work fairly if the parties are equal in their proportionate interests in the venture, financial capability and legal status. In the event of significant inequality in any of these areas, the weaker party may be severely disadvantaged. If the weakness is financial, the bidding partner may propose an unreasonably low price knowing that the other is more likely to sell than to buy. If the foreign party may only purchase subject to government approval, he is obviously at a disadvantage.

### 9.30 Arbitration

Arbitration is often more attractive to international joint ventures than resorting to the courts of either jurisdiction. It may be structured on an ad hoc basis, as where each party chooses an arbitrator and the two so chosen choose a third; or reliance may be placed in an arbitral institution such as the International Chamber of Commerce (ICC), the Institute of Arbitrators (London), the American Arbitration Association, the International Center for the Settlement of Investment Disputes (ICSID) or the Inter-American Commercial Arbitration Commission.

If the ad hoc approach is selected, reference to one of the more widely accepted set of arbitration rules is essential. Among these are the rules of the ICC, ICSID, and UNCITRAL (UN Conference on International Trade Law). The following is a checklist of the most important items requiring consideration in designing arbitration provisions:

- description of arbitral issues;
- enforcement of award;
- appointment of arbitrators;
- language;
- governing law;
- entry of judgement;
- time limits;
- neutral arbitrator versus tri-party panel of arbitrators;
- costs; and
- place of hearings.

Do not assume that arbitration is necessarily preferable to court decision-making. If the foreign joint venture partner can be persuaded to accept a Canadian forum and choice of law, there is a strong likelihood that leaving the ultimate resolution of disputes to the courts will be more satisfactory than arbitration. Court rules and procedures require no special definition by the parties. Canadian courts are usually accessible in a reasonable period of time.

The assistance of legal counsel is most important in all matters relating to the resolution of disputes by legal process, including arbitration.



The difficulty is that initial capitalization may be modest, with the real prospects of the business depending on the intangible inputs of each party. In such a case, it may be possible to make a strong argument that the initial disclosure of technology should be an outright transfer for a determined value with no additional royalty charge. An alternative argument is that the royalty, whether for present or future technology, should be at a less than arm's-length rate, although the transferor may have difficulty justifying such lesser rate for tax purposes in his own country.

#### 9.21 Further Capital Requirements

Participants in a joint venture should establish at the outset a set of plans and policies for future funding. Although initial contributions and available institutional financing may provide for foreseeable needs, the possibility is always present that additional direct equity contributions may be required. The ratio in which they may agree to participate in future funding is a matter of negotiation.

A question requiring equal deliberation and clear expression in the joint venture agreement is what consequences will follow from the failure of one party to make a contribution when required to do so. The following are some approaches to this problem:

- the unpaid amount may become a charge on future profit distributions to the defaulting party;
- the unpaid amount may be advanced by the other party at his option and treated as a payment on behalf of the defaulting party, whereupon it is secured by a charge on the latter's profit distributions or equity in the venture; or
- following a lapse of time to allow full opportunity for performance, the defaulting party may be required to dilute or forfeit his interest in the venture or sell the same to the non-defaulting party or the venture at a predetermined bargain price.

#### 9.22 Distribution of Earnings

Prospective joint ventures tend to focus their attention at the outset on organizational matters and start-up activities. It should not be forgotten that the purpose of the venture is the realization of profit and that differences may arise regarding the distribution of earnings. Each participant may have a different position in the inevitable tension between immediate distribution, with its obvious attractions, and retention of earnings for reinvestment and sustained growth. In a corporate joint venture, the matter may be left to the discretion of directors, where it normally resides under Canadian law.

If the venture provides for "negative" control by each party with its built-in potential for deadlock, the result of failure to establish a minimum distribution policy in the joint venture agreement may be the absence of distributions until the problem is resolved. Joint venture agreements often provide for the current distribution of some proportion of earnings or of all earnings subject to a reserve for capital growth. It may be further agreed that the level of earnings distributed will vary according to the predetermined standards of performance.



### 9.23 Termination

A limited-term joint venture may run its course and terminate according to its terms. Any joint venture may be terminated amicably or go through a substitution of parties upon a decision by one or both parties to change business direction. The most common example is the negotiated purchase by one party of the other's shares. Finally, termination may result from a disagreement between the parties.

### 9.24 Substituting a Party

A participant in a joint venture is rarely indifferent to the identity of the other party or parties. The obvious reason is that the venture is founded upon the identification by each of suitable co-venturers, an assessment by each of the other's contribution and some measure of trust and compatibility. The question of party substitution may well be a question of venture survival. At the least it will evoke concerns about the protection of intellectual property and general maintenance of confidentiality.

The question of party substitution usually arises when one participant seeks, for whatever reason, to transfer its interest to a third party. An aspect of the issue sometimes overlooked is the potential for indirect partner substitution by way of change of control in one of the parties. Such changes are difficult to control at the joint venture level. However, various devices are available, including automatic termination or forced buyout of the equity of the party undergoing a change of control at the option of the other party.

### 9.25 Restrictions on Transfer of Shares

Federal corporate law does not require any restriction on the transfer of shares, but it is common to include a provision requiring directors' approval for such transfers. In our experience, joint ventures invariably restrict the transfer of one party's shares without consent of the other.

Persons acquiring shares which are subject to a unanimous shareholder agreement are deemed to be parties to the agreement. The agreement will usually provide for share certificates to bear a legend stating that they are subject to its provisions.

### 9.26 Deadlock

One consequence of effective "negative" control is the development of a deadlock in the event of conflict. Some students of joint ventures have pointed out that the potential for deadlock may be seen as positive, since the risk of deadlock and consequent paralysis of the venture may operate as an incentive to amicable solutions. It is also argued that provisions for breaking deadlock situations may have the effect of a self-fulfilling prophecy, inducing the possibility or frequency of deadlock votes. The counterargument is that because of the serious potential consequences of disagreement, it is important to choose a mechanism for breaking deadlock situations.

In the common two-partner, equal-equity venture, the director provisions usually contemplate a board of even numbers on which each party has equal representation. Such an arrangement has the effect of giving each a veto over policy decisions affecting the venture. The same effect is obtained in multiple-party joint ventures by providing in the agreement and again in the corporations's by-laws that all resolutions of the board, or those dealing with specifically designated matters, are to be decided by a special majority or unanimous vote of all board members. Such provisions are examples of devices for exercising negative control.

Once elected, directors have the power to manage the affairs of the business which the joint venture participants choose to leave with them. Quorum requirements can ensure that the representatives of each participant are present at board meetings and approve proposed actions. Canadian law allows great flexibility in establishing quorum and voting requirements.

#### 9.17 Officers

Whatever the risks of conflict, it is very common for both joint venture parties to be represented at the level of day-to-day management. The reasons for this are obvious. Where technologies are being joined, there is probably a practical need for continuous operating liaison. In addition, each senses a need to protect its vital interests.

Corporate officers are usually drawn from the ranks of the parent corporation, sometimes leading to competition to ensure equal representation. We have seen joint venture agreements in which each second officer in a long pecking order was to be a designated representative of one party and the remainder designated by the other. A similar approach is to divide officers by position into roughly equal groupings, with one party nominating or supplying the incumbents of one group of positions. It has even been suggested that the right to nominate for each group of positions might be rotated annually.

Such formulas appear logical but prove unsatisfactory. There is no ideal solution. Common sense in relation to the specific needs of the venture, the persons most capable of performing various functions, and the legitimate interests of each party are the essential ingredients. Some venturers have found merit in the selection of a general manager unrelated to either of them, if not at start-up, then after the venture has reached a stable phase. We noted earlier that studies indicated a higher statistical likelihood of success where some measure of independent management is present.

#### 9.18 Capitalization of the Joint Venture Corporation

Initial capital must be paid into a corporation to complete its organization. Each joint venturer pays in a proportionate amount of the share capital for cash consideration or for property or services to which a specific monetary value is attributed by board resolution or provisions of the unanimous shareholder agreement. The necessity of valuing the non-cash consideration is dictated by both corporate law and tax considerations. A simple and painless way to establish the basic equity relationship of the venturers is to cause the newly-incorporated corporation to issue its common shares in the appropriate proportion for a relatively nominal consideration before substantial amounts of property have been acquired or contributed. Additional capital may then be raised by way of loans or the issuance of special shares to the co-venturers or third parties.

Joint venture participants may structure their investment in virtually any way they wish, by creating shares in the capital stock of the corporation with a wide variety of rights and conditions, including some or all of the following:

- voting rights, either generally or on specific matters;
- fixed, discretionary or preferential dividends, and/or redemption and retraction rights at redemption amounts either fixed in advance or as fixed at the time of redemption or retraction;
- rights to participate in the assets of the corporation upon its dissolution; and
- the right to elect a certain number of directors.

A useful device for allocating rights among parties to a joint venture is the issuance of shares of different classes or of different series within the same class.

Similar flexibility may be enjoyed through the use of debt instruments. Shareholder loans may be documented by simple promissory notes bearing fixed interest rates or by more complex agreements containing repayment provisions based upon earnings or performance. Debt securities can be designed to be convertible into equity at the option of the lender or the corporation.

#### 9.19 Existing Corporations

Many joint venture corporations result not from the creation of new corporations but from investment by a new participant in an existing corporation. The existing corporate structure and obligations are additional factors to be considered in planning the structure and operation of the corporation as a joint venture. Canadian law provides for virtually unlimited flexibility in amending articles of incorporation and corporate by-laws.

#### 9.20 Transfer of Technology

Our emphasis is on the acquisition of foreign technology for use in Canada. It is a given that, if such a transfer takes the form of a joint venture, key technology will be supplied by the foreign participant. There are several ways in which this transfer can be implemented. For instance, technology may be transferred outright in exchange for shares or debt of the joint venture company. Most often, the foreign partner will opt to transfer his technology pursuant to a license agreement. Licensing usually proves to be the most effective way of safeguarding his technology, even in the corporation in which he is a participant. Licensing arrangements within joint ventures were discussed in Section 9.10.

The combination of a licensing arrangement with a joint venture raises the question whether, and to what extent, the technology supplier is to be allowed to take money out of the venture other than by way of a distribution of after-tax profits by way of dividends. He may argue that his equity position in the venture should be treated quite separately from his licence of technology and that the latter should carry the same royalty which would be charged to unrelated parties. Even if this proposition is accepted, the other party should ensure that the technology supplier makes a full capital contribution.



This rule has created a dilemma for lawyers attempting to create corporate joint ventures in which the will of the shareholders, as expressed in their agreements, will always shape decisions of the board. There may even be some doubt under general corporation law as to the effectiveness of an agreement to vote shares in a particular manner. Issues of this nature have been the subject of extensive litigation in the US. They can now largely be resolved by the use of unanimous shareholder agreements.

The effect of a unanimous shareholder agreement is to restrict the powers which the directors would otherwise have to manage or supervise the management of the joint venture business to any extent which the agreement provides. The agreement may, among other things, provide its own mechanisms for amendment and arbitration of disputes. Indeed, the shareholders may pre-empt the functions of the board altogether if they so choose and thereby assume direct responsibility for management. This may merely reveal the need for a management body comparable to a board of directors, leading to a decision to leave the board intact but with its powers circumscribed by the agreement.

There are no special legal requirements for the formation of a unanimous shareholder agreement except that it must be a written agreement among all the shareholders of the joint venture corporation. Persons who are not shareholders may also be parties.

It must be remembered that the benefits of a unanimous shareholder agreement legally derive from the statute under which the joint venture corporation is formed. As at March 1, 1984, Ontario, Manitoba, New Brunswick, Quebec, Saskatchewan, and federal corporations' statutes have such provisions. Their provisions in this regard are almost identical to each other.

The flexibility of the unanimous shareholder agreement brings with it a need for extreme care in designing and drafting the agreement and supporting documents because shareholders assume the liabilities as well as the powers taken from directors. These range from filing requirements to unpaid wages. For this and other reasons, some joint venturers may find the traditional delegation of substantial powers to a managing board of directors to be in their best interest.

#### 9.15 Incorporation

Formation of a corporation for the purpose of the joint venture enterprise may precede the signing of a shareholders agreement, which will then make reference to its name, capital structure and other characteristics. Alternately, the joint venture agreement may take the form of a pre-incorporation agreement which spells out as part of the understanding that a corporation is to be formed with specified characteristics. Some key points are set out below:

- The corporate name must not be confused with the name of an existing business. A computer printout evidencing an availability search for the proposed name must accompany the Articles of Incorporation.
- The corporation may do business under one or more trade or divisional names by registering such names.

- Most Canadian corporation statutes require that some proportion of the board of directors be "resident Canadians", a term usually defined to include landed immigrants. Foreign joint venture partners should be alerted early to the fact that one or more of their representatives on the board of the incorporated joint venture must meet this qualification. The provinces of Quebec and New Brunswick have no such requirements. In Alberta, the requirement is that at least half of the corporations' directors must be resident Albertans. No Canadian corporation statute has a citizenship requirement for corporate officers.
- Corporations formed under the Ontario and federal Business Corporations Acts have all the legal powers of a "natural" person and consequently require no objects clauses in their articles of incorporation. Current practice is to define the purpose and scope of the joint venture by agreement and not include objects clauses in the articles.

Authorized capital provisions may be as simple or as sophisticated as required. In the simplest case, the corporation may issue an unlimited number of shares of any designated class. All shares are without nominal or par value. There is no requirement for a minimum paid-in capital, although the tax implications of "thin capitalization" should be noted (Section 9.18).

All issued shares must be registered. Shares are not validly issued unless fully paid for in money, property or past services. The joint venture agreement should contain details of initial capitalization in terms of the number and classes of shares to be issued and the nature of the consideration to be paid for them. The requirement of corporation law that all issued shares be fully paid for, and related provisions, mean that the parties must agree in advance on the money value of all technology and other intellectual property, all tangible property, and services for which shares are issued.

The articles of incorporation of a closely-held corporation contain provisions referred to as "private company clauses" to help eliminate certain filing requirements pursuant to securities legislation. These clauses usually include a restriction on the transfer of shares without the consent of the shareholders or directors. Such clauses must be co-ordinated with provisions in the joint venture agreement regarding the transfer of interests.

The corporate businesses of both shareholders and directors may be transacted in meetings or by the signing of consent resolutions. This makes it convenient for shareholders at a considerable distance from each other to transact and formally document their corporate business.

#### 9.16 Board of Directors

While shareholders may give written proxies to others to vote their shares, directors must act personally. Canadian law does not provide for the election of alternate directors.

Shareholder agreements usually provide that all shares will be voted so as to ensure each party's agreed representation on the board of directors. There are a variety of devices by which such equality can be assumed. This question will have lesser importance to the degree that the shareholders themselves assume powers of the board by a unanimous shareholder agreement. However, the board is rarely eliminated altogether, and because of its powers to manage the affairs of the corporation, care must be taken in organizing its structure and operations.



### 9.11.1 Preference for Incorporated Joint Ventures in Manufacturing

The business person is not concerned with purity of form but with finding the most appropriate vehicle for carrying out his or her business purpose. We have found that incorporation usually proves most suitable for a manufacturing venture. The vast majority of manufacturing joint ventures of which we are aware are incorporated.

This preference appears to be based on both business and legal factors. A manufacturing venture is not usually a short-term or highly restricted undertaking. The corporation has an indefinite life and creates a familiar framework for the financing and administration of an ongoing business enterprise. The notion of "corporate image" as a means of identifying the business and its products to suppliers, financing institutions and consumers alike, emerges as a significant psychological factor. A corporation is a convenient vehicle for the creation and exploitation of goodwill in the broadest sense and for the exploitation and protection of trademarks (for instance) in a narrow legal sense. The basic legal consequence of incorporation is limited liability - that is, in the absence of contractual guarantees, the shareholders are not individually responsible for the corporation's obligations.

### 9.12 Structural and Legal Considerations for the Incorporated Format

It may well be asked why parties who are free to create a joint venture and govern their relationship by a simple contractual arrangement should impose upon themselves the vast array of legal and administrative complexities which are inherent in the corporate form of organization. As shareholders, their dealings with third parties are not direct in the legal sense but are exercised through the "organs" of the corporation, namely, its officers and directors. Neither party has the right, as such, to enter into contracts for the venture but may only do so as authorized by resolution of the board or other appropriate proceedings of the corporation. To some, this may be a natural and orderly way to run a business; to others it may seem unnecessarily cumbersome.

In an incorporated joint venture, property of the venture is property of the corporation and consequently is once-removed from direct ownership. Equity is represented by shareholdings. Expenses of the venture are the expenses of the corporation and not its shareholders, an elementary fact with important tax consequences. Finally, the involuntary termination of a corporate joint venture may be more complicated than termination of a contractual relationship.

Most apparent drawbacks of incorporation can be overcome or accommodated. The modern corporation is in many respects an admirably streamlined and flexible vehicle for any business enterprise, including joint ventures. The indirect holding of equity through shares and the necessity of acting through organs of the corporation, which make for a degree of complexity, also give the corporation its unique flexibility.

Because of its importance, our main focus in the following pages is on the design and structure of incorporated joint ventures. Many of the principles discussed are equally applicable, however, to ventures of the unincorporated variety. Let us first take a closer look at the uses of unincorporated joint ventures.

### 9.13 Uses of Unincorporated or Contractual Joint Ventures

In Canada, unincorporated or contractual joint ventures are most common in the energy and natural resource sectors. They are also used for many construction and engineering projects. Typically, a Canadian corporation bidding for participation in a project which requires a combination of technologies will engage the assistance of one or more suppliers of foreign technology to contribute its knowledge and expertise on a temporary, unincorporated basis. While there is no legal limitation on use of unincorporated joint ventures in manufacturing, they are less common in that context for the reasons previously noted.

It would appear generally that the more limited the contemplated venture is in scope and duration, the more likely it is that the parties will favor the unincorporated format. Such projects tend to generate a preference for maintenance by the parties of their separate identities within the venture. This factor is significant where it appears desirable for one of the parties to assume general management or the primary contact with third parties. A practical result of maintaining separate identities is that the parties may be able individually to deduct their respective shares of the expenses of the venture for tax purposes.

Many unincorporated joint venture projects involve one or more exploration or experimental phases, and possibly, depending on outcome, a more permanent phase. For the long-term or permanent phase, the parties may turn to the incorporated format.

Unincorporated joint ventures have the advantage that they may be meticulously tailored to the particular need. The relationship is fully defined by contract, obviating the complexities of corporate structure discussed earlier. This is not to say that it is a simpler task to design and document an unincorporated joint venture than the corporate form. On the contrary, the agreement governing an unincorporated joint venture is likely to be more comprehensive because it must provide within its own framework for matters which are dealt with in articles of incorporation and by-laws in the case of a corporation. We have found that in many instances greater importance is attached to the definition of the scope and limitations of the venture, accounting procedures, and management provisions.

### 9.14 Unanimous Shareholder Agreement

Modern corporations' statutes provide a device known as the "unanimous shareholder agreement" which can be used to reduce the structural complexity of a corporation for joint venture purposes, while retaining its many attractive elements.

There has also been some doubt about the degree to which courts would enforce the promises made by joint venturers in shareholder agreements, apart from obligations deriving from their status as shareholders in the joint venture corporation. For example, under the common law of corporations, the discretion of directors cannot in any way be fettered. This translates into the proposition that one shareholder cannot contract with another that his nominee directors will necessarily vote in a predetermined manner.

Since joint ventures by their nature involve some relatively limited or well-defined business activity, it is important that purpose and scope be defined with some precision. Naturally these may change with the passage of time and events, but changes in basic intentions should, in turn, be well documented to avoid misunderstandings.

Designing the scope and purpose provision may prove to be more demanding than anticipated. The attempt alone may have the effect of exposing unsuspected differences in perspective, and act to prevent later discord.

#### 9.9.1 The Dominant Issue: Control

The predominant issue in forming and operating an equity joint venture, whatever its form, is likely to be the issue of control. Since each party is heavily committed to the venture in terms of capital, expertise, expectation of profit, and risk, an attempt is usually made to work out some form of shared control. The contributor of key technology is likely to have a lively interest in the supervision of its use and further development. Indeed, the ability to participate in control probably accounts largely for his choosing joint venture operations instead of granting a licence. The party who would otherwise be in the position of a licensee probably has practical operating experience and may be the major contributor of plant and equipment as well as market knowledge and significant elements of the venture's technology base. It is obvious that he will seek to play a significant if not predominant role in control. Shared control is not the only option, as one might be initially inclined to believe. There are joint ventures in which one party is given control either absolutely or (more likely) under the overall direction of some joint body which restricts itself to long-term strategy. There are others in which the parties agree to delegate a large measure of control to the general manager and maintain a hands-off policy in relation to day-to-day affairs. Studies indicate that, statistically, such "dominant parent" and "independent" ventures have a lower failure rate than those where control is shared. They appear to be well suited to ventures with a short time frame where decisive management is critical to success.

If one party is primarily a passive investor and the other an "operator", wisdom may dictate that operational control should rest with the latter. Where equity participation is unequal, the larger equity owner(s) may demand a predominant voice in control and management. Nevertheless, shared control is the norm, and the mechanisms for exercising shared control are a central feature of the agreements and other constituent elements of most joint ventures. The party located in the host country should not underestimate the significance of its contributions as issues of equity participation and control are negotiated. The issue of control arises at different levels. Difficulties more frequently arise in relation to short-term policy decisions and day-to-day operations than in relation to general policy.

Although our principal focus is on corporate organization and contractual terms, it is well to note that control may be influenced by a variety of other factors. A distinction has been made between the "negative control" which characterizes the defensive mechanisms embodied in formal agreements and "positive control", which encompasses all the techniques of leadership.



### 9.10 Other Considerations; Ancillary Agreements: Licensing

Among the many other important matters to be considered by parties contemplating a joint venture are the definition of their respective contributions of time, money, technology and tangible assets, future funding, the mechanisms by which each will be compensated, record keeping and access to records, duration, and rights to termination. These considerations provide subject matter for the basic joint venture agreement. They also give rise to a variety of ancillary agreements covering such matters as management services, licensing, technical services, financing and marketing.

Of all these, the licensing agreement is likely to be the most important since the transfer of technology may be at the very foundation of the venture. Licence arrangements in the context of joint ventures are not unlike arms-length licence agreements. A good rule of thumb is to give as much attention to the transfer of technology to the joint venture as would be given if the parties were not otherwise associated. Indeed, the interests of the parties may in many respects be the same as they would be in an arm's-length licensing arrangement. The main difference is the leverage, in terms of control, which the licence gives to the technology transferor. The other party may perceive it to be his duty to assume the role of defender of the joint venture in negotiating the licence agreement.

The parties sometimes attempt to entrench the principle of fair and objective dealing between either of them and the venture by providing in the joint venture agreement that all such dealings must be on an arm's-length basis.

The material which follows assumes, for the most part, a two-party joint venture with essentially equal equity participation. This viewpoint is adopted for convenience and because it represents the majority of actual joint ventures in the field of manufacturing. We believe that most of the principles discussed may be applied to multiple-party and unequal-equity ventures.

### 9.11 Incorporated and Unincorporated (Contractual) Equity Joint Ventures

The incorporated joint venture is one in which each party becomes a shareholder in a corporation formed specifically to conduct the business of the joint venture enterprises. Implementation usually begins with the preparation of a pre-incorporation shareholders' agreement which sets out general intentions, a specific program for moving into the corporate structure, and some contractual provisions which govern the relationship of the parties to the venture throughout its existence.

Once the joint venture corporation has been organized and given its own life, the relationship of the parties is governed not only by their original contract but by the corporation's articles of incorporation and by-laws and the entire body of statutory and non-statutory corporation law.

The unincorporated or contractual joint venture is one in which each participant retains its own corporate identity. The relationship as co-venturers is defined entirely by contract, which may account for the fact that theorists tend to regard this form as the "pure" joint venture.

## 9 JOINT VENTURES

### 9.1 "An Organizational Form Whose Time Has Come"

There is a large and rapidly increasing body of writing on the subject of joint ventures. A recurring theme is that joint venture enterprise has grown rapidly since World War II and promises to grow even more rapidly in the future. It is said to be "an organizational form whose time has come" and is predicted to become an "increasingly prominent feature on the corporate landscape" of the 1980s and 1990s. At the same time, the writers of books and articles explore the special requirements for joint venture success. These include careful partner selection to ensure a "good fit", thorough planning and documentation, willingness to accept cultural differences, practical working arrangements with regard to control, and maintenance of mutual trust.

### 9.2 Reasons for Joint Venture Enterprise

As previously noted, joint ventures are formed for a variety of reasons. In his recent book, Strategies for Joint Venture Success,<sup>1</sup> Peter Killing lists four reasons which will serve to focus attention on underlying motives. Of these, the last two are likely to be especially applicable to the small and medium-sized businesses to whom this chapter is directed. The four reasons are as follows:

- Government insistence;
- The project is too large, financially, for either party to handle alone;
- Neither firm has all of the skills, typically technical and marketing, to make a success of the business on its own;
- Only by combining forces can the joint venture partners achieve satisfactory economies of scale in research and development, production, or marketing.

### 9.3 Possible Impact of Foreign Law

United States and European Economic Community anti-trust laws may have an impact on joint ventures with parties based in those jurisdictions (Section 6.12). Primary responsibility for compliance with such laws will fall upon those parties. Canadian participants should be aware of their existence, however, and be guided by specialized counsel in the foreign jurisdiction.

### 9.4 Meaning of "Joint Venture"

There is no precise meaning for the term "joint venture". In the broadest sense, any arrangement in which two or more businesses combine resources for some definable undertaking is a joint venture. The Canadian legal system provides great flexibility, and imposes very few restrictions as to the form which joint ventures may take.

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1 J. Peter Killing, Strategies for Joint Venture Success, (Croom Helm Ltd.), 1983.



9.5 Non-equity Joint Ventures

A wide variety of co-operative arrangements including licensing, technical assistance agreements, contract manufacturing and even sales agency and distributorship arrangements are sometimes loosely categorized as non-equity joint ventures. The term suggests at the least some vital contribution from each party and a degree of continuing active involvement. We describe later a joint venture of the non-equity variety based on contract manufacturing and marketing agreements.

9.6 Equity Joint Ventures

It is more common to speak of equity joint ventures in which each party has a proprietary interest and a direct share of risk. This kind of business organization may itself take a variety of forms, but these may be segregated broadly into two categories: the incorporated joint venture and the unincorporated joint venture.

9.7 Complex Nature of the Joint Venture Implementation

It is a more complex exercise to work out the parameters of a joint venture and integrate its many details into a comprehensive set of documents than it is to settle the terms of a single licence or technical assistance agreement. We emphasize that properly implemented technology transfers are the product of interaction among the business principals and skilled professional advisors. No technology transfer is a do-it-yourself project.

9.8 Preliminary Documentation

As negotiations move past the exploratory phase, non-binding memoranda or terms of agreement and exchanges or proposed language can assist the parties to make progress toward agreement. To an even greater degree than in licensing, so-called "standard" agreements should be taken only as points of departure. In some instances, a preliminary agreement is concluded to perform a feasibility study of the proposed project on the understanding that if specified results are obtained, a definitive joint venture agreement will be negotiated.

9.9 Designing the Joint Venture Agreement

The elements of drafting discussed in connection with licence agreements apply equally to joint venture agreements. Clarity and absence of ambiguity are critical. Defined terms and schedules may be used to good effect.

A joint venture agreement usually utilizes a series of recitals to describe the parties, with reference to the experience or expertise which each brings to the venture, possibly their past dealings or the circumstances which have lead to their joining forces, and possibly the purpose of the venture. The latter is more likely to be touched upon in the recitals and comprehensively described in one of the early operative clauses.





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## LABOUR SUPPLY AND REGULATIONS

### I THE CANADIAN LABOUR FORCE

Canadian workers are highly skilled and well-educated. Compensation costs can be as much as 35 percent lower than in the US; and labour legislation is fair and progressive, benefiting both employers and employees.

Canada also offers a number of incentive programs and services to employers who wish to develop and utilize available human resources.

In 1986, the Canadian civilian labour force averaged 12.9 million (57.1 percent men and 42.9 percent women), representing half of the total population and 65.7 percent of the population aged 15 or over. Its distribution was in accordance with the general population and is shown in Table 1.

TABLE 1  
GEOGRAPHIC DISTRIBUTION OF LABOUR FORCE, 1986

<u>Region</u>	<u>Number</u> (000)	<u>Percent</u>
Atlantic provinces	996	7.7
Quebec	3,221	25.0
Ontario	4,897	38.1
Prairie provinces	2,299	17.9
British Columbia	1,457	11.3
TOTAL	12,870	100.00

Source: Statistics Canada, Bank of Canada Review.

The service-producing sector accounted for the largest proportion (69.5 percent) of the labour force. The industrial distribution is shown in Table 2.

TABLE 2  
INDUSTRIAL DISTRIBUTION OF LABOUR FORCE, 1986

<u>Industry</u>	<u>Number</u> (000)	<u>Percent</u>
Goods-producing	3,832	29.8
Agriculture	518	4.0
Other primary	342	2.7
Manufacturing	2,210	17.2
Construction	761	5.9
Service-producing	8,942	69.5
Transportation, communications, utilities	965	7.5
Trade	2,274	17.7
Finance, insurance, real estate	687	5.3
Community, business, personal services	4,150	32.3
Public administration	866	6.7
Unclassified	97	0.8
TOTAL	12,870	100.00

Source: Statistics Canada, The Labour Force.

The Canadian labour force is well-educated. In 1986, 88.9 percent had undertaken education beyond grade 8; 38.3 percent had at least some post-secondary education; and 13.4 percent possessed university degrees. Table 3 provides an educational profile of the labour force.

TABLE 3  
EDUCATIONAL ATTAINMENT OF LABOUR FORCE, 1986

<u>Education Completed</u> (000)	<u>Number</u>	<u>Percent</u>
Grades 0 - 8	1,434	11.1
Grades 9 - 13	6,512	50.6
Post-secondary including university	4,924	38.3
University degree	1,723	13.4

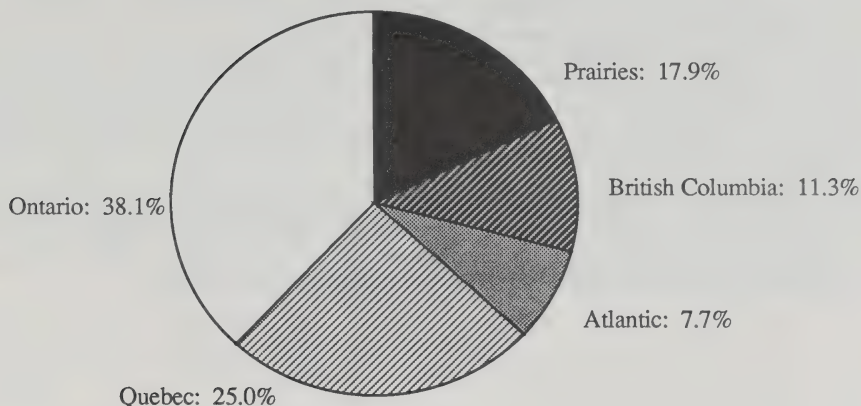
Source: Statistics Canada, The Labour Force.

### 1.1 Comparative Wages

International comparisons of wages and salaries are difficult to make on any standardized basis due to many factors, including exchange rates, varying hours of work, varying educational and professional standards, and different levels of social benefits provided by both the state and the employer. However, it is helpful to compare wage rates and total compensation in countries which share similar standards of living and professional standards. Table 4 shows the annual salaries and total compensation of four occupation groupings (clerical, blue collar, white collar, and professional) in nine North American cities (three in Canada, and six in the the US). Generally, total compensation costs in Canada fall below those in the US, in some instances up to 35 percent.

# CANADIAN LABOUR FORCE: 1986

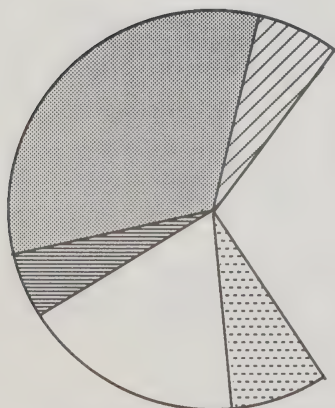
## BY REGION



Total 1985 labour force: 12.9 million

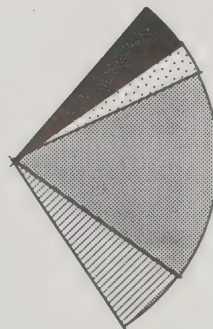
## BY INDUSTRY

### SERVICE PRODUCING INDUSTRIES (69.5%)



- Transportation, Communications, Utilities: 7.5%
- Trade: 17.7%
- Finance, Insurance, Real Estate: 5.3%
- Community, Business, Personal Services: 32.3%
- Public Administration: 6.7%

### GOODS PRODUCING INDUSTRIES (29.8%)



- Agriculture: 4.0%
- Other Primary: 2.7%
- Manufacturing: 17.2%
- Construction: 5.9%

Unclassified: 0.8%

Source: Statistics Canada, The Labour Force; Bank of Canada Review.

International comparisons of average hourly earnings and compensation in manufacturing for 1986 are shown in Table 5. Hourly compensation is defined as: all payments made directly to the worker - pay for time worked (basic time and piece rates plus overtime premiums and cost-of-living adjustments); pay for time not worked (vacations, holidays, and other leave); all bonuses and other special payments; the cost of payments in kind before payroll deductions of any kind; and employer contributions to legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is adjusted for other taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labour costs. However, hourly compensation does not include all items of labour costs. Recruitment, employee training, and plant facilities and services (such as cafeterias and medical clinics) are not covered because data are not available for most countries. For consistency, compensation is measured on an hours-worked basis for every country.

TABLE 4  
COMPARISON OF WAGES AND BENEFITS IN SELECTED CANADIAN AND US CITIES (\$CDN) 1986

	<u>Machinist</u>		<u>Production Manager</u>		<u>Electrical Engineer</u>		<u>Secretary</u>	
	<u>Salary</u>	<u>Salary &amp; benefits</u>	<u>Salary</u>	<u>Salary &amp; benefits</u>	<u>Salary</u>	<u>Salary &amp; benefits</u>	<u>Salary</u>	<u>Salary &amp; benefits</u>
Montreal	30,300	35,754	48,900	57,702	38,400	45,312	20,900	24,662
Toronto	29,600	34,869	46,400	54,659	39,200	46,178	20,400	24,031
Vancouver	33,200	38,844	51,400	60,138	41,000	47,970	23,900	27,963
Boston	38,194	48,392	57,917	73,381	49,028	62,118	26,701	33,830
New York	38,611	48,920	59,097	74,876	48,611	61,590	27,042	34,262
Chicago	40,694	51,559	55,278	70,037	50,000	63,350	27,222	34,490
Dallas	43,056	53,605	58,056	72,280	49,722	61,904	27,917	34,757
Los Angeles	41,667	52,375	54,750	68,821	52,778	66,342	29,028	36,488
Atlanta	40,417	50,319	54,167	67,438	47,222	58,791	27,014	33,623

Source: Montreal Urban Community, Office of Economic Expansion, Decision: Montreal.



TABLE 5  
AVERAGE HOURLY EARNINGS AND COMPENSATION IN MANUFACTURING, 1986

	Ave. Hourly Earnings (\$C)	Index (Canada = 100)	Ave. Hourly Compensation (\$C)	Index (Canada = 100)
Canada	11.87	100.0	15.23	100.0
United States	13.52	113.9	18.19	119.4
United Kingdom	7.85	66.1	10.36	68.0
West Germany	10.79	90.9	18.67	122.6
Japan	11.36	95.7	13.20	86.7

Source: US Department of Labour, Bureau of Labor Statistics, converted at 1986 average of noon spot rates for various currencies.

## 1.2 Work Stoppages

Table 6 shows a significant reduction in time lost to work stoppages in Canada from 1980 to 1985. Overall, there was a 65percent decrease in time lost. While significant declines were experienced in all industrial sectors, the greatest reductions were in construction, which in 1985 amounted to only one percent of the 1980 total, and in public administration which in 1985 amounted to only eight percent of the 1980 total. As a percentage of total work days, time lost to work stoppages is a miniscule 0.13percent, and is significantly less than time lost to sickness and accidents.

TABLE 6  
TIME LOST TO WORK STOPPAGES

<u>Jurisdiction</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
	(000 person-days)					
Atlantic provinces	1,327	262	206	440	246	184
Quebec	3,952	1,470	1,281	2,313	1,116	1,124
Ontario	1,676	2,259	2,207	760	1,414	1,232
Prairie provinces	677	457	767	57	154	191
British Columbia	390	2,787	988	769	825	126
Subtotal	8,022	7,235	5,449	4,339	3,755	2,857
Federal	954	1,644	347	105	116	324
TOTAL	8,976	8,879	5,796	4,444	3,871	3,181

TIME LOST TO WORK STOPPAGES

<u>Industry</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
		(000 person-days)				
Primary	1,152	938	272	196	47	99
Manufacturing	3,137	4,644	1,691	1,385	2,356	1,578
Construction	1,107	43	2,200	244	213	11
Transportation and utilities	729	1514	566	275	550	479
Trade, finance and services	2,150	1,021	636	2,032	635	959
Public administration	<u>700</u>	<u>717</u>	<u>251</u>	<u>312</u>	<u>71</u>	<u>55</u>
TOTAL	8,975	8,877	5,616	4,444	3,872	3,181

Source: Labour Canada, Strikes and Lockouts in Canada.

### 1.2.1 International Comparisons

International comparisons of strikes and lockouts are often difficult and inaccurate because of differing social, political and organizational structures. Data collection and statistical methodologies for labour disputes differ widely among countries. There are variations in the definitions used by individual countries, as well as many differing minimum requirements for the duration and size of a stoppage. Some countries do not include strikes based on political motives. Work slowdowns, which are generally not reported, are a more common bargaining tactic in some countries such as Japan. A comparison of US and Canadian methodologies highlights some of these problems.

Canada-US Comparisons: Canadian reporting of work stoppages is more comprehensive than in the US, which does not report on strikes involving less than 1,000 workers or those stoppages lasting less than one shift, regardless of the number of workers involved. If Canada were to report only labour disputes involving 1,000 or more workers in the same manner, the percentage of estimated working time lost in 1985 would fall to approximately 0.05percent from the reported figure of 0.13percent.

TABLE 7  
TIME NOT WORKED DUE TO STRIKES AND LOCKOUTS,  
PERCENT OF TOTAL TIME WORKED

	<u>National Data</u>			<u>Application of US Methodology to Canadian Data</u>		
	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Canada	0.19	0.16	0.13	0.12	0.08	0.05
United States	0.08	0.04	0.03	0.08	0.04	0.03

Source: US Department of Labor; Labour Canada, Strikes and Lockouts in Canada.

In general, labour disputes in Canada result in a small amount of time not worked, an average (over the last three years) of 16/100 of one percent of total working time per year.

Overall, more than 93percent of all collective agreements in 1985 were reached without a work stoppage.

The level of strikes and lockouts in Canada is declining. In 1985, the number of workers involved in work stoppages was down 14.5percent from the previous year, and was more than 64percent below the number in 1982. The aggregate number of person-days not worked in 1985 declined 18percent from the previous year, and was the lowest since 1977.

Strikes and lockouts are heavily regulated in Canada. Work stoppages during the term of a collective agreement are prohibited, and all disputes that arise during the life of a contract must be settled through a grievance procedure and/or binding arbitration. These legal requirements do not exist in the US. Other legislative and administrative provisions assist in the resolution of bargaining disputes; compulsory conciliation (provided by government at no cost) is designed to assist in the negotiation process.

A decentralized approach to collective bargaining is one of the most distinctive features of Canadian labour relations. Due to the federal/provincial division of powers, the federal government exercises jurisdiction in labour relations over approximately 10percent of the labour force, with the remaining 90percent falling to various provincial authorities.

Unlike most European union structures, the Canadian labour federations (such as the Canadian Labour Congress) have no bargaining authority. Most bargaining in Canada takes place between a single employer and a single union. This allows individual firms to exercise a large degree of influence on their own labour terms and climate, and reduces the potential for national or industry-wide stoppages.

The decentralized union structure allows Canadian unions to be more flexible and responsive to local issues and concerns than some of their counterparts in other industrialized nations. As well, there is increasing consultation between labour groups and business and government in such activities as the Canadian Labour Market and Productivity Centre, the Ministerial Task Force on Program Review, the Royal Commission on the Economic Union and Development Prospects for Canada, and the Ontario Government Task Force on Microelectronics.

Generally, labour relations in Canada are characterized by fidelity to contractual and statutory regulations, with a low incidence of illegal, political, or violent strike activity.

## 2 DIVISION OF LEGISLATIVE POWERS BETWEEN FEDERAL AND PROVINCIAL JURISDICTIONS

Both the Parliament of Canada and the provincial legislatures have the power to enact labour laws. The jurisdiction of the provincial and federal governments arises from the Constitution Act, 1867, Sections 91 and 92. Judicial interpretation of these sections gives provincial legislatures major jurisdiction, with federal authority limited to a narrow field.

Provincial authority is derived from the "property and civil rights" subsection of the Constitution Act, 1867. The right to enter into contracts is a civil right, and since labour laws impose certain restrictions on contracts between employers and employees, they fall within provincial authority as property and civil rights legislation. Provinces also have the right to legislate on local works and undertakings.

Federal jurisdiction in the labour law field arises from the right to regulate certain subjects expressly assigned to Parliament by Section 91 of the Constitution Act, 1867, or expressly excepted from provincial jurisdiction by Section 92. These subjects are of a national, international or interprovincial nature. In addition, Parliament has jurisdiction to regulate works wholly within a province which have been declared by Parliament to be works "for the general advantage of Canada or for the advantage of two or more of the provinces", as (for example) grain elevators, feed mills and uranium mines. By virtue of its exclusive power to regulate certain works and undertakings, Parliament has the incidental power to enact labour laws relating to those works and undertakings.

The Canada Labour Code applies to:

- (a) works or undertakings connecting a province with another province or country, such as railways, bus operations, trucking, pipelines, ferries, tunnels, bridges, canals and telegraph, telephone and cable systems;

- (b) all extra-provincial shipping and services connected with such shipping, e.g., longshoring;
- (c) air transport, aircraft and airports;
- (d) radio and television broadcasting;
- (e) banks;
- (f) defined operations of specific works that have been declared to be for the general advantage of Canada or of two or more provinces, such as flour, feed and seed cleaning mills, feed warehouses, grain elevators and uranium mining and processing; and
- (g) federal crown corporations, where they are engaged in works or undertakings that fall within Section 91 of the Constitution Act, 1867, or where they are an agency of the Crown, e.g., the Canadian Broadcasting Corporation and the St. Lawrence Seaway Authority.

The jurisdiction of Parliament is generally limited to the above industries, with certain possible additions arising from subsequent judicial decisions.

In addition, Parliament has exclusive jurisdiction to pass laws dealing with the Yukon and Northwest Territories. Parliament has enacted legislation for local government in each territory, granting power over property and civil rights and matters of a local and private nature. Accordingly, the territorial governments have virtually the same legislative powers, with regard to labour laws as do the provinces.

Labour standards legislation has been enacted by the territorial councils of the Yukon and Northwest Territories in most fields. Labour standards ordinances, modelled on the Canada Labour Code, Part III (Labour Standards), with modifications to meet the particular requirements of the territories, went into force July 1, 1968. The ordinances were revised in 1971 in the Yukon and in 1974 in the Northwest Territories. The ordinances established minimum standards for hours of work, wages, weekly rest days, annual vacations and general holidays for employees in the two territories. Before the enactment of the Northwest Territories ordinance, the only labour standards applicable were those established by mines legislation. Standards in the Yukon ordinance replaced those previously laid down in the Yukon Labour (Minimum Wages) Ordinance, the Labour Provisions Ordinance and the Annual Vacations Ordinance.

In each territory, the ordinance is administered by a labour standards officer appointed by the commissioner. The Northwest Territories legislation provides for a Labour Standards Board, consisting of five members and having responsibility for hearing appeals of decisions of the labour standards officer. Under the terms of the Yukon ordinance, the commissioner must appoint an advisory board that represents the interests of the employers and the employees.



The ordinances apply to employers and employees in any work, undertaking or business of a local or private nature in the territories. The Northwest Territories ordinance excludes domestic servants in private homes, trappers, persons engaged in commercial fisheries, and managers, superintendents or persons who exercise management functions. Members or students of designated professions may be excluded by regulations. The Yukon ordinance applies generally, but certain classes of employees are excluded from Part I, governing hours of work.

### 3 EMPLOYMENT, PLANNING AND INDUSTRIAL ADJUSTMENT SERVICES

The Canada Employment and Immigration Commission (CEIC) offers a number of programs and services to the investor in the development and utilization of human resources. These are designed to encourage employers to meet their needs through the Canadian Job Strategy (see below). Canada Employment Centres, established at local labour market focal points, provide a job-matching service for employers who register job vacancies. Advice on labour market trends and conditions is dispensed to both employers and employees. Canada Farm Labour Pools fill employers' vacancies with permanent, casual or temporary agricultural labour.

For employers wishing advice on Human Resource Planning, the CEIC has consultants, who work with business on a one-to-one basis, as well as business seminars for groups of employers. The consultants advise companies on how to establish and maintain human resource plans and suggest solutions to human resource problems. The CEIC, in conjunction with some provinces, has developed seminars which are offered to groups of employers. Similar seminars are provided by the Federal Business Development Bank. These seminars provide information and methods for use in planning human resources, optimizing the use of existing staff and projecting skill requirements for future personnel.

CEIC also offers the Industrial Adjustment Program in which workers and management are encouraged to work together to resolve labour adjustment problems resulting from plant closure, relocation, expansion, or technological change. Employee/management committees are formed to work through the particular situation, and are assisted by consultants. The private sector and the CEIC share the costs of the committees.

In instances when particular skills are not available either locally or in other areas of Canada, the CEIC can assist the employer to recruit and hire non-Canadian workers.

### 4 MINIMUM WAGES

Minimum wage legislation is in force in all federal, provincial and territorial jurisdictions, and covers many employees, including those who are paid on other than a time basis, such as pieceworkers, and those paid mileage rates. Rates vary according to jurisdiction, and currently range between \$3.80 and \$5.00 per hour. Table 8 shows the applicable rates for each of the 13 jurisdictions.

In addition, there are special rates which apply to part-time workers, students, young workers, trainees, inexperienced workers and various other classes. Details regarding minimum wages are available from Labour Canada, Ottawa, Ontario, K1A 0J2.

TABLE 8  
MINIMUM WAGE RATES BY JURISDICTION<sup>1</sup>

<u>Jurisdiction</u>	<u>Rate</u>
Federal	\$4.00
Alberta	\$3.80
British Columbia	\$4.00
Manitoba	\$4.50*
New Brunswick	\$4.00
Newfoundland	\$4.00
Nova Scotia	\$4.00
Ontario	\$4.35**
Prince Edward Island	\$4.00
Quebec	\$4.35**
Saskatchewan	\$4.50
Northwest Territories	\$5.00
Yukon Territory	\$4.75

<sup>1</sup> As of June 1, 1987, except where noted otherwise.

\* \$4.70 as of September 1, 1987

\*\* \$4.55 as of October 1, 1987

Source: Labour Canada.

## 5 MINIMUM WORKING AGE

As with wages, a minimum working age is set by individual jurisdictions. The Canada Labour Code and various provincial employment standards acts, safety acts, education acts and welfare acts set out minimum working ages according to the type of work to be performed. A summary of minimum working-age legislative provisions, by jurisdiction, is available from Labour Canada, Ottawa, Ontario, K1A 0J2.

## 6 HOURS OF WORK

Average weekly hours (including overtime) of hourly-paid manufacturing workers in Canada totalled 38.8 in 1986, unchanged from 1985. Among the various manufacturing industries, average weekly hours ranged from 34.2 in printing and publishing to 41.2 in petroleum and coal products. Five-day workweeks are overwhelmingly the norm, with over 90 percent of workers on that schedule.

There are provisions for standard hours of work per day and per week, set out in various pieces of legislation for each of the provinces and territories and in the Canada Labour Code. The standards governing the work day and work week set out maximum hours for which regular wages can be paid. Additional work time must be paid overtime at stated rates. However, there are some exceptions. In addition, at least one rest day must be scheduled per week. A summary of the relevant legislation, by jurisdiction, is available from Labour Canada, Ottawa, Ontario, K1A 0J2.

## 7 ANNUAL VACATIONS

Legislative provisions in each of the provinces and territories and the Canada Labour Code provide for a minimum of two weeks annual vacation per year. Vacation pay is generally set at a minimum of four percent of annual earnings, rising with the number of consecutive years worked for the same employer. A list of minimum vacation entitlements in each of the 13 jurisdictions is available from Labour Canada, Ottawa, Ontario, K1A 0J2.

## 8 STATUTORY HOLIDAYS

Federal, provincial and territorial legislation set out a minimum number of statutory holidays. Only Prince Edward Island has no legislative provision for paid holidays. Statutory holidays range in number from five to 10, depending upon jurisdiction. These, however, are the minimum, and actual experience suggests that the average number of paid holidays is well in excess of these figures, ranging up to or over 20 days. The minimum number of paid holidays, by jurisdiction, is available from Labour Canada, Ottawa, Ontario, K1A 0J2.

## 9 PENSIONS

Enacted in 1966, the Canada Pension Plan has provided workers and/or their families with a basic level of income protection in the event of retirement, disability or death. Paid workers between the ages of 18 and 70 have access to the plan regardless of location or occupation. (Quebec has a separate comparable plan.) The plan works by a system of contributions and benefits. Each time an employee is paid, 1.9 percent of the salary up to a maximum determined by Revenue Canada is deducted at source by the employer, and entered into the plan. The employer contributes a matching amount. At age 65, the employee is eligible to receive benefits, even though he or she may still be working. Or, the employee may opt to defer benefits to age 70 and continue to contribute. After age 70, no further contributions can be made.

10

MATERNITY PROTECTION

Legislation in all jurisdictions provides maternity leave for a period varying from 17 to 41 weeks. In most provinces, an employee is entitled to leave and job security if she has been continuously employed by her employer for at least one year. All laws require the employee to produce a medical certificate, but there are some provisions for exclusions. Five provinces (Manitoba, Nova Scotia, Prince Edward Island, Quebec and Saskatchewan) also have legislation dealing with paternity and/or adoption leave. A fuller description of maternity protection and parental leave is available from Labour Canada, Ottawa, Ontario, K1A 0J2.

11

HUMAN RIGHTS, FAIR EMPLOYMENT PRACTICES AND LABOUR CODES

Human rights provisions, fair employment practices, equal pay and anti-discrimination laws are all embodied in the Canada and Provincial labour codes and in the various human rights codes. A number of laws provide the aggrieved employee with a choice of either initiating court proceedings or making a complaint under the pertinent legislation. As a last resort, all acts provide for prosecution in the courts. Discrimination by race, religion, colour, creed, sex, age and other factors is not tolerated.

12

TERMINATION

Employees of Canadian businesses may be fired for cause such as incompetence or incapacity. As well, layoffs can occur due to lack of business, reorganization or redundancy. Termination may be subject to legal interpretation and argument, inasmuch as it may be contrary to human rights and anti-discrimination legislation.

The Canada Labour Code (which covers the federal jurisdiction) and labour codes in all provinces and territories except the Northwest Territories, require that the employer give notice of termination to individuals. In five provinces, the employee is under an equal obligation to notify the employer before quitting. Advance notice of projected layoffs of groups is required under the Canada Labour Code and in six provinces and the Yukon. Details of the various requirements for individuals and groups, by jurisdiction, are available from Labour Canada, Ottawa, Ontario, K1A 0J2.

13

UNEMPLOYMENT INSURANCE

About 95 percent of the workers in Canada are protected by unemployment insurance (UI). To be insurable, workers must be employed by the same employer for at least 15 hours a week or must earn at least \$106 (as of June 1, 1987) a week. (Minimum required earnings are set in the fall of each year and minimum hours of work are determined by legislation.) Neither sole proprietors of a business nor workers over the age of 65 can insure their employment.



Employers deduct workers' unemployment insurance premiums from their employees' pay and send the deductions to Revenue Canada, along with the employers' share of the contribution. In 1987, workers pay \$2.35 for every \$100 of weekly insurable earnings up to a maximum of \$530 (insurable earnings) per week. Employers pay \$3.29 for every \$100 of their employees' insurable earnings.

New employers should not delay remitting of deductions until they receive their employer account number. A cheque made payable to the Receiver General of Canada should be sent to the local District Taxation Office by the 15th day of the month following the date on which an employee was put on the payroll. An accompanying letter should give the employee's name and address and all particulars relating to income tax, Canada Pension Plan contributions and Unemployment Insurance premiums.

The maximum benefit rate paid to claimants is 60 percent of their average weekly insurable earnings. This average is calculated on earnings received in the last 20 weeks of insurable employment, or (for people with less than 20 weeks of work) on the average of those weeks. In 1987, the maximum weekly benefit is \$318. The maximum weekly benefit changes each year.

#### 14      WORKERS' COMPENSATION

All jurisdictions have worker's compensation programs and funds to provide benefits for workers suffering job-related injuries and diseases. These funds are supported by the employer at compulsory rates set for each industry and situation by the various provincial Workers' Compensation Boards.

#### 15      OCCUPATIONAL SAFETY AND HEALTH

Each province has legislation, procedures and measures to promote and ensure occupational safety and health. These are, for the most part, similar to those of the federal jurisdiction. Inspections of construction sites, industrial plants and other potentially hazardous sites are carried out by the various provincial authorities.

#### 16      FRINGE BENEFITS

In addition to paid vacations and holidays, a large number of other non-legislated fringe benefits are commonly provided by Canadian businesses. Benefits which are not available to individuals (except perhaps at much greater cost) are provided by the employer, sometimes on an employee/employer cost-sharing basis. These benefits might involve insurance plans, supplementary health and dental care plans, and/or salary continuation plans (e.g., pensions, sick leave, supplementary medical care and long-term disability).

Other benefits generally provided are: paid daily rest periods (coffee breaks), other time off (such as for bereavement, birth of a child, and other personal reasons), overtime (aside from that legislated), rights of call-back and stand-by, and severance pay.



17 COLLECTIVE BARGAINING AND INDUSTRIAL RELATIONS

In 1984, union membership in Canada stood at 3.4 million. This represented 27 percent of the work force. Some 40 percent of members belong to international unions with headquarters outside Canada.

The regulations with respect to collective bargaining are found in a collection of provincial and federal labour relations acts and labour codes. Labour codes in all jurisdictions guarantee the right to representation by a trade union, following a certification process outlined in legislation. Bargaining in good faith is a notable feature of the system; refusal to do so constitutes unfair labour practice and is subject to prosecution. The various jurisdictions administer their respective acts mainly through labour relations boards.

TABLE 9  
UNION MEMBERSHIP IN SELECTED COUNTRIES, 1984

<u>Countries</u>	<u>Membership (000)</u>	<u>As percent of wage and salary earners</u>
Canada	3,561	37.1
Japan	12,358	29.0
United Kingdom	11,086	52.4
United States	18,306	19.4
West Germany <sup>1</sup>	9,109	42.3

<sup>1</sup> 1983

Source: Queen's University, Industrial Relations Centre, Current Industrial Relations Scene in Canada, 1986.

Collective agreements, which in all jurisdictions must be of at least one year's duration, commonly involve wages, fringe benefits and all manner of working conditions. Generally, unions have the right to strike and employers the right to lock out. However, these rights are subject to stringent regulations. No strikes or lockouts are permitted while a collective agreement is in force. Statutes in some jurisdictions remove the right to strike for certain groups of employees under any circumstances. Work stoppages by non-unionized employees are not legally sanctioned, nor are strikes pertaining to union recognition.

Before a strike or lockout, conciliation under the auspices of the government is mandatory. Questions or grievances arising as to the application or interpretation of provisions within a current agreement are settled through arbitration or adjudication.

The Canadian Labour Congress (CLC), the largest of Canadian labour federations, represents some two million workers, or about 58 percent of organized workers in Canada. While the CLC is the voice through which organized labour generally makes known its positions on various matters, labour federations have no authority for national collective bargaining.

## 17.1 Mediation and Conciliation Services

### 17.1.1 Federal Jurisdiction

The federal government, through Labour Canada, provides third-party assistance for the resolution of labour disputes, and promotes industrial peace and co-operation in the federal private sector. Its mediation and conciliation services are available to employers and unions operating in the federal private sector, subject to the jurisdiction of the Canada Labour Code, Part V.

TABLE 10  
PERCENT OF WORKERS UNIONIZED, BY SECTOR, 1984

<u>Industry</u>	<u>Unionized Workers</u> (percent)
Public administration	72.4
Construction	47.5
Transportation, communication, utilities	56.4
Fishing and trapping	40.2
Manufacturing	39.1
Forestry	42.5
Mines, quarries and oil wells	26.4
Service industries	36.9
Trade	9.8
Finance	2.7
Agriculture	1.1

Source: Statistics Canada, Corporations and Labour Unions Returns Act, 1984 Part II.

The mediation and conciliation services offered by the federal government help to prevent and settle industrial relations disputes and to resolve labour-management conflicts by appointing conciliation officers, conciliation commissioners and conciliation boards, mediators, and Industrial Inquiry Commissions. Labour Canada also investigates requests made to the minister asking for consent to complain to the Canada Labour Relations Board about alleged unfair labour practices related to collective bargaining.

The mediation and conciliation service appoints arbitrators and arbitration board chairmen to settle grievance disputes during the term of collective agreements. It appoints adjudicators to hear and decide complaints of unjust dismissal lodged by employees not subject to collective agreements.

17.1.2 Provincial Jurisdictions

In addition to the federal mediation and conciliation services, most provincial governments have similar services available to employers and employees in the provincial private sector.

18 APPRENTICESHIP AND TRADE QUALIFICATIONS

All provinces have programs for the training and certification of specific tradespeople. In addition, the CEIC contributes to classroom training in these programs.

19 THE CANADIAN JOBS STRATEGY

The federal government and the provinces have worked together to develop a labour market strategy, defined by the following five principles. The principles state that training and employment development must:

- focus on the real, continuing needs of the labour market with greater emphasis on small business and entrepreneurship;
- allow flexibility to meet changing regional and local needs, with room for innovation;
- provide simpler, less confusing and more accessible programs, with clearly defined objectives;
- recognize the shared responsibilities of the federal government, the provinces, and the private sector; and
- extend equal opportunities for all Canadians, particularly those at a disadvantage in the labour market.

The Canadian Jobs Strategy builds on these principles. It provides an opportunity for Canadians to focus their energies on the immediate problems and the long-term challenges in the labour market. Many Canadians face severe disadvantages in the labour market or are severely affected by changing technology and economic conditions. These groups include:

- the long-term unemployed;
- young people who are out of school and unable to find work;
- the growing number of women re-entering the labour market;
- workers needing retraining or skills upgrading to avoid layoffs or job displacement; and
- workers in communities suffering severe economic decline, who need new opportunities for long-term employment.

Continued consultation at all levels will ensure that the strategy remains responsive to local and regional needs. Local advisory councils, representing community leaders from business, labour and voluntary groups, will be established across Canada. Working with federal and provincial representatives, the councils will identify changing needs and help implement programs at the local level.

The strategy comprises six programs which are intended to be a collection of tools available individually or in combination to respond to clients' needs:

- Skill Investment
- Job Entry
- Job Development
- Skill Shortages
- Community Futures
- The Innovations Program

#### 19.1 Skill Investment

To cope with change, workers and employers must be equipped with new skills and flexible support to adapt quickly. The Skill Investment Program provides training and retraining to facilitate adaptation to new types of jobs.

The program benefits workers who are employed in jobs vulnerable to technological change or changing labour market conditions. Their retraining must be directed towards jobs in demand.

Employers and employees plan the training programs. The federal government subsidizes training costs and wages. Federal assistance for training can last up to three years.

Four options are available under the program. The first, designed to foster individual initiatives to cope with change, is full-time leave from a job to undergo training. If employees are on full-time training leave, they may receive one-half of their regular wages. The government covers from 50 to 100 percent of eligible course fees in educational institutions.

The second is specifically directed towards women, whether managers and owners in small business or self-employed individuals. This option would generally involve a combination of on- and off-the-job training. In this case, reimbursements to employers for wages paid to workers during training cover up to 60 percent of wages during off-the-job training and up to 25 percent of wages during on-the-job training, to \$350 per week. Self-employed individuals also receive reimbursements.



Training trust funds are another option under the Skill Investment Program. They can be set up by employee associations or by unions and employers to pay for their members' future training and skill development. During the consultation process, a number of groups advocated training trust funds as worthwhile endeavors. In response, the government will encourage the continuation of existing funds and the creation of new ones. Under the Skill Investment Program, the federal government will contribute 50 percent of the amount paid in by participants, up to \$200,000 in the first year; and 33 percent, up to \$100,000 in each of the second and third years. Thus, individual training funds can receive as much as \$400,000 from the federal government over three years.

Finally, the direct purchase option involves training by the CEIC at public and private institutions for workers undertaking part-time training outside of their normal working hours. Procedures for this will follow established practices and may include dependant care, and trainee travel assistance.

## 19.2 Job Entry

The Job Entry Program operates through projects designed and administered by co-ordinators. Business, labour, community groups, the public sector, and individuals are among those who can act as co-ordinators.

On-site developmental training and work experience for young people and women is provided under this program. The private sector can get an opportunity to train and assess potential new employees on the work site without facing a direct cash outlay.

Job Entry's flexibility enables the program to support educational institutions' work/study programs which will later provide graduates with smoother access to the labour market. Similarly, during the summer months, students who take part in government-sponsored summer job programs can benefit from the career-related work experience provided through short-term employment projects with private sector, municipal and non-profit employers.

The Job Entry Program benefits:

- young people who have not graduated from a post-secondary education institution, with priority being given to those most in need - young people who have not completed secondary school;
- women who have been out of the labour force for at least three years, and who have the greatest requirement for help in returning to the labour force;
- students enrolled in work-study programs in educational institutions;
- students returning to school who take part in summer job programs.



19.3      Job Development

This program is designed to help the long-term unemployed to take advantage of the opportunities available in the labour market.

The Job Development Program benefits people who have been unemployed for at least 24 out of the previous 30 weeks, particularly members of established target groups: women, disabled persons, native peoples and visible minorities.

Job Development projects, which last up to 52 weeks, combine on-site training with an employer and off-site training, as required.

Canada Employment Centre counsellors will assess individual training or job experience needs and place people in projects which best suit them.

Eligible project sponsors in the private sector can receive wage subsidies and direct financial contributions towards capital costs and training. Those who require special equipment or structural renovations to the workplace to hire disabled persons can receive up to \$10,000 to defray costs.

To cover direct training costs, sponsors could receive \$40 per day per client. The Job Development program may also pay for hiring a project manager.

19.4      Skill Shortages

In some industries, appropriately skilled workers may be in short supply and high demand. The Skill Shortages Program provides financial assistance for employers who must train workers in these required skills. Assistance for training under the program may last up to three years. An employer can train current employees or ask the Canada Employment Centre to refer qualified candidates who can be hired and trained. Employers are encouraged to develop their own training plans. When the number of workers that can be trained by employers is insufficient to meet the need of the economy, the CEIC may purchase training from public or private institutions for unemployed persons.

Under the program, employers are partially reimbursed for wages paid to a worker who is being trained. Reimbursements cover 60 percent of wages during off-the-job training and 25 percent during on-the-job training, up to \$350 per week. In addition, the program covers 75 percent of the employer's fixed training costs and 50 percent of the employer's variable training costs. Employers who require special equipment or structural renovations to the work place to hire disabled persons can receive up to \$10,000 to defray costs.

19.5 Innovations

The Innovations Program is designed to provide financial assistance for pilot and demonstration projects which test new solutions to labour market problems. The emphasis is on creativity, and a wide range of good ideas will be considered for funding.

Participation in the program is open to individuals or groups anywhere in Canada who have an innovative proposal for improving the functioning of the labour market. There are no rigid eligibility requirements, and proposals from all sectors are encouraged.

Proposals should show potential for generating lasting improvements in the labour market. Priority areas related to labour market concerns include:

- new training technologies, including computer-assisted learning;
- new delivery systems for learning;
- innovative bridging programs to help workers entering or re-entering the work force;
- alternative work arrangements related to labour market adjustment;
- more effective links between training and job creation.

19.6 Community Futures

The Community Futures program helps communities hit by major layoffs and plant closures. It also helps communities faced with chronic unemployment, and those which are struggling with economic decline but which have some permanent growth and development potential.

Community Futures builds on the existing strengths of the communities, providing support to the private sector and local community initiative. The program involves a flexible, co-operative approach with an emphasis on entrepreneurial development.

Community Futures anticipates change rather than reacting to it, by responding to initiatives proposed by the communities themselves, and by providing programs closely tailored to individual community needs.

19.7 Equity in the Canadian Jobs Strategy

Four groups have been designated as requiring special measures to correct traditional imbalances in the work force: women, native peoples, persons with disabilities and visible minority groups.

The government has announced measures designed to introduce employment equity into the labour force. They are:

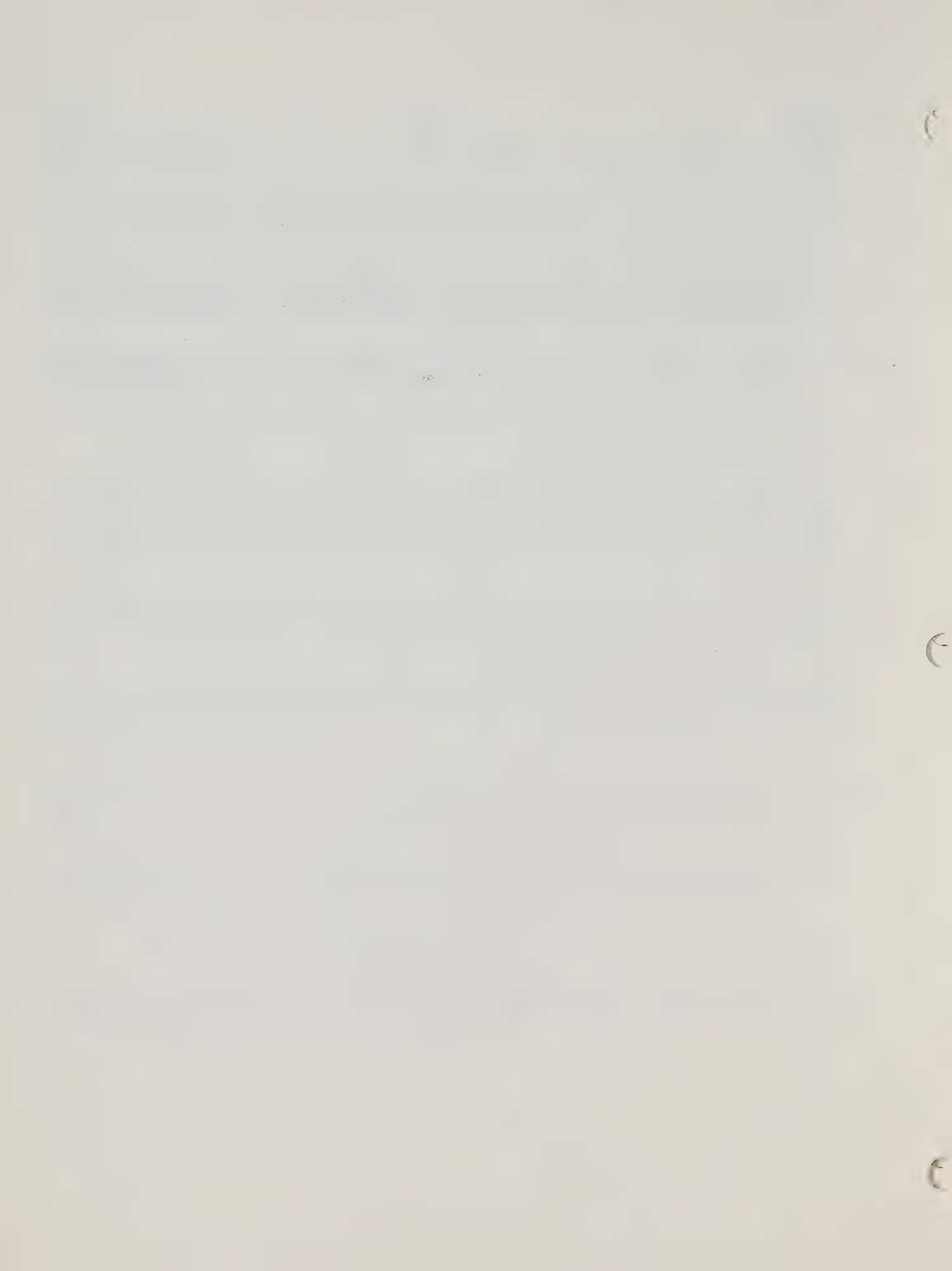
- crown corporations must implement employment equity and report annually, beginning in 1987;
- federally regulated businesses with 100 employees or more must implement employment equity and begin reporting in 1988 (legislation to this effect is under consideration in the House of Commons);
- companies with 100 employees or more tendering on government contracts for goods and services worth over \$200,000 must certify their commitment to implementing employment equity.

19.8      Local Advisory Councils

The links between businesses, training organizations, community groups and governments have been strengthened by the creation of Local Advisory Councils. LACs allow local business, labour and community groups to meet with government representatives to discuss local employment issues and to exchange information and views.

Community-based groups meet regularly to discuss ways to respond to the needs and demands of local labour market conditions. Labour market information, gathered from all sectors of the community, is shared and used collectively.

The total allocation for the Canadian Jobs Strategy for 1987-88 is \$1.586 billion.



## BANKING AND FINANCE

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## BANKING AND FINANCE

The Canadian financial system is highly sophisticated and internationally competitive. Canada's 10n domestic banks rank among the largest and most stable in the world, with more than 7,000 branches throughout the country and more than 300 branches in 30 foreign countries. Other sectors of the industry, including trust, insurance and securities companies, provide excellent comprehensive financial services.

This section outlines Canada's banking and finance system, with particular attention to the needs of entrepreneurs interested in Canadian investments.

The Canadian financial industry is organized into four major subsectors traditionally known as the "four pillars" - chartered banks, trust and mortgage loan companies, insurance companies and securities firms. Canada's financial industry is regulated under both federal (Bank Act, Trust Companies Act, Loan Companies Act, etc.) and provincial laws. The various laws were enacted to avoid conflicts of interest which might arise among commercial lending, securities underwriting, estate management and other such activities. Of the four "pillars", the chartered banks have a dominant position; the total assets of their Canadian operations were \$332 billion in mid-1986, representing 48percent of the total sector. Trust and mortgage loan companies account for 18percent of the total with assets of \$124 billion, and insurance companies (life, property and casualty) also account for 18percent of the total with assets of \$127 billion. Investment dealers have a two percent share, with assets of \$14 billion. The remaining 14percent is accounted for by credit unions (8.5percent) and various types of financial corporations (5.5percent).

The Canadian banking system in particular is well-developed. In terms of financial services offered, Canadian banks are internationally competitive. Canada's major banks (Royal Bank of Canada, Canadian Imperial Bank of Commerce, Bank of Montreal, Bank of Nova Scotia and Toronto-Dominion Bank) rank in the top 60 worldwide.

The cornerstone of Canada's financial system is the central bank - the Bank of Canada. The Bank of Canada is a federal government institution which has as its primary responsibility the task of establishing the country's monetary policy.

Cheque clearing and settlement of accounts between the various deposit-taking institutions is carried out by the Canadian Payments Association (CPA). The CPA is managed by a board of directors composed of representatives from each of the three major types of deposit-taking institutions (chartered banks, trust companies, and credit unions/caisses populaires) and the Bank of Canada.

### 1 CENTRAL BANK

In addition to establishing Canada's monetary policy, the Bank of Canada acts as fiscal agent for the Government of Canada. It honours all cheques issued by the federal government, sells Government of Canada treasury bills and bonds, operates in foreign exchange markets to ensure orderly market conditions for the Canadian dollar, and issues Canada's paper currency.

1.1 Monetary Policy

The Bank of Canada's primary function is to set Canada's monetary policy, which involves regulating the growth of the money supply. The bank does this chiefly by controlling the cash reserves which the chartered banks are required to maintain under the Bank Act. The Bank of Canada also influences short-term interest rates by setting the bank rate, which is the interest rate at which chartered banks can borrow from the Bank of Canada, as they do occasionally for short periods of time. At present, the bank rate is set each week, at a quarter of one percentage point above the average yield on the 91-day Government of Canada treasury bills, which are auctioned every Thursday. Movements in the bank rate tend to reflect the general trend of short-term interest rates in the economy.

The Bank of Canada also administers the Exchange Fund Account of the Minister of Finance. In this capacity, operations of the Bank are directed towards the maintenance of orderly conditions in the foreign exchange market in Canada through the purchase or sale of US dollars for Canadian dollars.

1.2 Who Owns the Bank of Canada?

All of the shares of the bank are owned by the Minister of Finance on behalf of the Government of Canada, and all the profits of the bank are paid to the government.

1.3 Who Manages the Bank of Canada?

The responsibility for the management of the bank lies with a 15-member board of directors. The Governor of the bank is the chairman of the board and the chief executive officer. The Senior Deputy Governor is also a director. Both are appointed for seven-year terms and both are involved full-time in managing the bank's affairs. Twelve outside directors (by tradition at least one from each province) are appointed by the government for three-year terms. The Deputy Minister of Finance also sits on the board, but does not have the right to vote.

1.4 Does the Government Tell the Bank of Canada What To Do?

The Bank of Canada Act gives the bank the power to decide and implement monetary policy. In so doing, the Governor consults regularly with the Minister of Finance. If the Government finds itself in fundamental disagreement with the bank's policy, it is entitled by the act to issue a written directive requiring the bank to change its policy; however, such a directive has never been issued.

2 CHARTERED BANKS

In 1980, the Bank Act, which governs the activities of the chartered banks, was amended to allow the entry of foreign banks by the establishment of two types of banks - "Schedule A" and "Schedule B". Schedule A banks are subject to ownership restrictions; no individual shareholder can own more than 10 percent of the voting shares, and total foreign ownership cannot exceed 25 percent. Schedule A banks are essentially chartered banks as defined prior to the 1980 Bank Act revision. Schedule B banks are a new class of banks which are subject to different ownership rules.

Canadian Schedule B banks may be closely held initially, but are required to become widely held within 10 years (i.e. after 10 years they are subject to the same rules as Schedule A banks). Foreign Schedule B banks must be closely held by the foreign parent bank. As a result, all foreign banks operating in Canada do so through Schedule B bank subsidiaries. In essence, the revisions allowed foreign-owned "near-banks", which had been previously operating in Canada under provincial legislation, to gain full bank status. Foreign Schedule B banks are limited to a 16 percent share of the Canadian banking market; that is, under the Bank Act, total domestic assets of foreign banks in Canada cannot exceed 16 percent of the total domestic assets of all banks in Canada.

## 2.1 Domestic Banks (Schedule A)

Canada's domestic banks are among the largest in the world (at least the five major ones), and as a whole, rank among the most stable in the world. A list of the domestic banks is set out in Appendix I.

The six largest domestic banks are listed in Table I, which shows their asset values as of September 1985.

TABLE I  
LARGEST CANADIAN BANKS, BY SIZE OF ASSETS

<u>Bank</u>	<u>Assets (\$ billion)<sup>1</sup></u>
Royal Bank	103
Imperial Bank of Commerce	87
Bank of Montreal	86
Bank of Nova Scotia	67
Toronto-Dominion Bank	55
National Bank	29
Largest six banks	427
TOTAL all Canadian banks	428

<sup>1</sup> As at December 31, 1986. Total assets include assets of the banks' international operations.

Source: Supplement: Canada Gazette, Part I, Chartered Banks.

### 2.1.1 Branch Banking System

Unlike the banking system in the US, which is characterized by thousands of banks (approximately 14,000) whose operations are more likely than not restricted to one state or even one community, Canada has only 10 domestic banks with thousands of branches across the country. Of the some 7,000 branches across Canada, the five major banks account for well over 6,000.



The advantage of a branch banking system to the Canadian consumer is obvious, as people in small remote areas of Canada have ready access to the same range of banking services as those who live in large urban centres. The banks utilize the branch system by transferring deposits which exceed local borrowing to other branches in Canada where loan requirements exceed local deposits. Also, the banks can achieve loan diversification which insulates them from economic downturns in certain areas of the country.

#### 2.1.2 Who Owns the Banks?

The shares of Schedule A banks are publicly traded. The Bank Act ensures that no individual shareholder owns more than 10 percent of the stock of a bank, and that total foreign ownership does not exceed 25 percent. Approximately 95 percent of the shareholders of all bank stocks are Canadian residents.

#### 2.1.3 Who Manages the Banks?

Like any large corporation, each bank has a board of directors elected by the shareholders. The directors establish the general policy of the banks, and in turn select the management team (professional bankers) who run the day-to-day business of the bank.

#### 2.1.4 Do Canadian Banks Have International Operations?

The international operations of the Canadian banks (particularly the five major ones) have increased substantially since 1970. In 1986 foreign currency assets of the 10 domestic banks represented 45 percent of their total assets in contrast to 29 percent in 1970. Canadian banks have some 300 branches in 30 countries, and have correspondent relationships with more than 5,000 banks worldwide.

#### 2.1.5 What Types of Services Are Offered by Banks?

The Canadian banking system provides services to both the individual and the large corporation. Some of the services offered are:

- savings accounts
- chequing-savings accounts
- deposit receipts
- commercial loans, including term loans
- mortgage loans
- agricultural loans
- automated teller machines
- foreign trade and market information
- commercial collections and remittances
- transfer of funds
- traveller's cheques
- credit information
- custody of securities and other valuables
- current accounts
- personal chequing accounts
- personal loans
- bankers' acceptances
- home improvement loans
- student loans
- credit cards
- currency trading
- letters of credit
- guarantees
- money orders and bank drafts
- night depositories
- banking by mail
- acceptance of account payments
- bill payment services



## 2.2 Foreign-Owned Banks (Schedule B)

Since their inception in 1980, Schedule B banks have stimulated competition in the Canadian banking system for the middle-market customer (intermediate-sized companies). It appears that they have been successful, as the legislated ceiling on their aggregate share of the Canadian banking industry was increased in June 1984 from eight percent to 16 percent. Another factor pointing to their success is the actual number of Schedule B banks, which currently stands at 55. A list of these banks is set out in Appendix I.

With the major foreign banks now established in Canada, the foreign investor may be able to deal with his home bank's subsidiary here in Canada. Thus there may be no necessity to seek out a Canadian bank for the conduct of the foreign investor's financial affairs in Canada.

### 2.2.1 Available Services From Foreign Banks

The Schedule B banks provide the same range of services as the domestic chartered banks regarding loans, deposits and commercial services. However, they can lend only 20 times their deemed authorized capital, set by the Department of Finance. This is to limit these institutions to 16 percent of the domestic market.

## 3 EMERGING TRENDS OR DEVELOPMENTS IN CANADIAN BANKING

### 3.1 Pruning of the Branch Networks

There have been closures and consolidations of many poorly-located branches. The total number of branches will probably not decline any further, and should remain constant over the next few years.

### 3.2 Expansion of Financial Services

- Personal banking will probably move towards home banking, which has been introduced in a very limited fashion by five of the six largest US banks.
- Electronic funds transfer (or as it is known within the financial industry, EFT) will probably play a much more important role in consumer and commercial banking, because the technology is available and the public response to automated teller machines has been positive.

### 3.3 Increased Competition

- The domestic banks will come under continued pressure from foreign-owned banks as they compete for the business of intermediate-sized Canadian companies, and from other financial institutions (trust and mortgage loan companies, credit unions, etc.) as they endeavour to capture a greater share of the consumer and small business markets.

- In addition, implementation of federal and provincial proposals for deregulation of the financial sector will create opportunities for more competition between the various institutions. The proposed deregulation is discussed in more detail in Section 9 - Future Developments.

#### 4 TRUST AND MORTGAGE LOAN COMPANIES

Trust and mortgage loan companies may be incorporated under either federal or provincial legislation. Trust companies are the only type of institution permitted to offer fiduciary services. They are deposit-taking institutions, and in many respects are similar to chartered banks, although they do not generally provide the full range of commercial banking services.

Mortgage loan companies are mainly involved in taking deposits and issuing loans secured by mortgages. Most of the major companies are affiliated with banks or trust companies.

Trust and mortgage loan companies face certain restrictions on their powers to invest and lend funds. These institutions generally invest their funds in residential and commercial mortgages, government securities, corporate debt, and real estate. Unsecured loans are restricted to seven percent of total assets. In many ways, trust and mortgage loan companies are similar to US savings and loans institutions.

#### 5 INSURANCE COMPANIES

The main functions of life insurance companies are underwriting insurance and selling annuities. They are not permitted to take deposits, although they issue deferred annuities that are close substitutes for term deposits. They are also permitted to manage segregated funds, including pension funds, on behalf of customers. With respect to investments, their powers are similar to those of trust and mortgage loan companies. Life insurance companies are permitted to invest in mortgages, government securities, real estate, and corporate debt, with a limit on unsecured lending of seven percent of total assets.

Businesses requiring financing over the intermediate (five to 10 years) or long term (over 10 years) can utilize the financial resources of insurance companies. Financing of real estate transactions, for example, might require terms of up to 40 years. Under such circumstances, insurance companies would be competitive with other financial institutions such as the chartered banks, trust companies and mortgage loan companies.

Property and casualty insurance companies are confined to underwriting property, liability and various other kinds of non-life insurance. As the liabilities of these companies are relatively short-term, their investments are for the most part restricted to readily marketable government and corporate securities.

SECURITIES FIRMS

Securities firms or investment dealers in Canada bring together those with capital to invest and those in search of capital. In other words, an investment dealer directs the savings of Canadians and foreign investors to finance the various levels of government and all types of businesses. This matching-up process can be accomplished in two ways. The investment dealer underwrites new public issues of corporate or government securities, or offers new issues to the Canadian public on a best-efforts or agency basis. The second way is through the placement of corporate securities with private individuals or corporations. Securities legislation with respect to private placements is much less stringent than that respecting public issues.

The Investment Dealers Association of Canada (IDA) is the national self-regulatory body of the Canadian securities industry. Its members account for more than 95 percent of all securities transactions for both the private and public sectors in Canada. It should be noted that Canadians, on a per capita basis, raise twice as much capital as do Americans.

For 1986, IDA reported total dealer new issues of \$31.2 billion, compared to \$29.8 billion for 1985. Of this total, \$8.4 billion represented new common equity issues, an increase of \$3.7 billion or 44 percent over 1985. The IDA also reported that bond trading in 1986 totalled \$285 billion (\$222 billion in 1985) and money market trading totalled \$850 billion (\$719 billion in 1985). Trading on the Canadian stock exchanges in 1986 was \$84.6 billion, compared to \$57.8 billion in 1985, representing a 46 percent increase.

Presently, there are restrictions with respect to foreign ownership in securities firms. In December, 1986, the Ontario government announced proposals to permit foreign ownership of Ontario investment dealers. British Columbia has also announced similar deregulation measures (see Section 9 - Future Developments). These proposals reflect the growing internationalization of securities markets, and should allow Canadian firms to become more active in world markets.

STOCK EXCHANGES

Canada has four stock exchanges, located in Toronto, Montreal, Vancouver and Alberta - and one commodity exchange in Winnipeg. Toronto, Montreal and Vancouver are the most significant exchanges in Canada, with Toronto being the largest. All stock exchanges are regulated by the province in which the exchange is located, and there are some differences in regulations among provinces.

From 1982 to mid-1985, the Toronto Stock Exchange (TSE) Composite index outperformed the London and Dow Jones Industrial indices and did marginally better than the Standard and Poor 500 composite stocks in the US. Since mid-1985, the TSE Composite index has not performed as well as the US and London indices, partly as a result of the weakness in the oil, gas and minerals sectors. Comparative performance of the TSE Composite, Standard and Poor 500, Dow Jones Industrial and London indices over the period 1982 through 1986 is shown in Table 2. Table 3 presents a comparison of the performance of various sectors on the TSE for the last five years.

TABLE 2  
INDEX OF COMPARATIVE STOCK MARKET PERFORMANCE<sup>1</sup>

		<u>TSE Composite</u>	<u>S&amp;P 500</u>	<u>Dow Jones Industrial</u>	<u>London</u>
1982	1	100.0	100.0	100.0	100.0
	2	86.1	99.0	98.7	98.2
	3	100.0	110.5	108.9	104.5
	4	123.3	125.8	127.2	106.5
1983	1	135.8	136.5	137.3	116.6
	2	154.1	150.1	148.5	128.0
	3	157.5	150.9	149.9	123.4
	4	160.8	148.4	153.0	137.3
1984	1	150.0	142.1	141.6	155.6
	2	139.9	138.2	137.6	143.0
	3	150.7	149.9	146.7	154.7
	4	151.2	148.5	147.3	169.4
1985	1	164.6	161.9	154.0	174.6
	2	170.8	170.5	162.3	169.7
	3	165.8	164.4	161.5	178.7
	4	182.7	190.7	188.0	201.5
1986	1	191.9	215.6	221.0	248.0
	2	194.3	226.4	230.0	238.2
	3	187.6	208.8	214.8	218.2
	4	193.1	218.6	230.4	232.5

<sup>1</sup> All data are for year-end.

Source: Toronto Stock Exchange; Standard & Poor; The Economist; Dow Jones.

TABLE 3  
TORONTO STOCK EXCHANGE - SECTOR COMPARISON<sup>1</sup>

	<u>Oil, Gas Prod.<sup>2</sup></u>	<u>Oil, Gas Compos.</u>	<u>Metals, Minerals</u>	<u>Utili- ties</u>	<u>Paper &amp; Forest Prod.</u>	<u>Merchan- dising</u>	<u>Finan- cial Serv.</u>	<u>Gold</u>
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	133.9	129.3	134.2	127.6	147.0	139.8	119.1	98.7
1984	104.3	111.4	104.0	135.9	135.8	120.0	116.1	69.3
1985	107.7	162.1	112.0	160.5	157.1	183.7	146.7	103.1
1986	87.0	113.8	106.2	127.6	244.7	200.1	152.4	125.8

<sup>1</sup> All data are for year-end.

<sup>2</sup> Composed of 47 of the 53 stocks in the oil and gas composite sector.

Source: Bank of Canada Review.



As a general rule, the listing of a corporate stock on one of Canada's stock exchanges is not complicated and can occur with little difficulty. Each new listing must meet certain minimum listing requirements established by each stock exchange. Canadian requirements are much the same as those of the Securities and Exchange Commission in the US.

Canada's bond market is also well developed. Major corporations regularly raise capital by issuing bonds and debentures. Securities dealers usually handle the underwriting and distribution of these securities. An "over-the-counter" secondary market ensures liquidity for the purchasers.

## 8 OTHER FINANCIAL INSTITUTIONS

### 8.1 Sales Finance Companies

Sales finance companies provide a wide range of services to consumer and commercial clientele. Small loans are provided to the consumer for the consolidation of personal debts, automobile purchases, purchase of household appliances, vacations, etc. On the commercial side, sales finance companies are primarily involved in vehicle fleet leasing or equipment financing. The large companies in this field are owned by the manufacturer of the product being financed (e.g., the major automobile manufacturers have their own finance companies such as GMAC, Ford Credit and Chrysler Credit).

### 8.2 Credit Unions

Credit unions are similar to savings and loans banks in the US. They are co-operative associations which primarily accept deposits and offer mortgage and personal loans. Many of the credit unions provide loans to small business, as well as chequing facilities, term deposits, travellers' cheques, lines of credit, etc.

### 8.3 Provincial Financial Institutions

Each province has established its own financial agency which can provide financial assistance in the form of a direct loan or loan guarantee to companies carrying on business in the province. These agencies are usually a last resort for business, and therefore, serve to complement, rather than compete with other financial institutions.

## 9 DEPOSIT INSURANCE

The Canadian Deposit Insurance Corporation (CDIC) was established by the federal government in 1967 to provide protection to depositors against the failure of eligible deposit-taking institutions. Membership in the CDID is obligatory for chartered banks and all federally-regulated institutions that accept deposits from the public. Provincially-incorporated institutions that accept deposits are also eligible to apply for membership. Currently, the CDIC provides insurance of up to \$60,000 per person, per institution. The plan is funded by a levy on insured deposit-taking institutions that is proportional to the amount of their insurable deposits.



10 FUTURE DEVELOPMENTS

10.1 Federal Proposals for Deregulation

Deregulation of the financial sector has been the subject of intense public debate in Canada since November 1984, when the federal government announced its intention to explore changes to regulation of the financial sector, in consultation with consumers, business, and the provinces. The government's initial proposals were released in April 1985 in a discussion paper. In December 1986 the federal Minister of State for Finance tabled the federal government's final proposals for reform of the financial sector. These proposals, when enacted, will apply to federally-regulated institutions; namely all banks and federally-incorporated trust and loan, and insurance companies.

Investment dealers and co-operatives, while affected by the proposals, are regulated by the provinces as are provincially-incorporated trust and insurance companies (provincial proposals for deregulation are also outlined below).

The federal proposals for reform will result in major changes to the financial sector in Canada. The proposals provide for changes in four main areas:

10.1.1. Powers of Financial Institutions

The powers of financial institutions will be significantly expanded. Federally-regulated banks, trust and loan companies, and insurance firms will be permitted to own any type of financial institution, including investment dealers. This means, for example, that a bank or trust company could offer insurance or investment services through a subsidiary. This proposal, often referred to as common ownership, will result in a merging of the "four pillars". The in-house powers of financial institutions will also be broadened. Trust and loan companies and insurance firms will be granted full commercial and consumer lending powers. All three types of institutions will be allowed to offer investment advice and portfolio management, and banks and insurance firms will be granted fiduciary powers. Finally, banks, trust and loan companies, and insurance firms will be permitted full networking, with the exception of retailing of insurance. (Networking refers to the provision of another institution's services, such as investment services, to a bank's customers.)

Foreign financial institutions will receive the same extension of powers as domestic institutions; however, the common-ownership proposal will be phased in for foreign institutions. Schedule B banks and other foreign-controlled financial institutions will be allowed to buy 50 percent of an investment dealer as of June 30, 1987, and to establish or buy 100 percent of an investment dealer as of June 30, 1988. No changes are proposed to the existing rules on foreign entry and ownership, subject to the outcome of the Canada-US trade negotiations.

10.1.2. Ownership Policy for Financial Institutions

Banks:

Smaller banks (less than \$750 million in capital) will be permitted to be closely held by domestic investors, as long as they have no commercial links. Larger banks (more than \$750 million in capital) must have at least 35 percent of their voting shares publicly traded and widely held by December 31, 1991, or within five years of reaching the threshold, and no shareholder will be permitted to acquire more than 10 percent of the shares of the bank.

Trust, Loan and Insurance Companies:

New trust, loan and insurance companies will not be allowed to have significant commercial links. Commercial interests will not be allowed to acquire or increase their ownership of non-bank institutions with more than \$50 million in capital. Larger institutions with commercial links will be required to have at least 35 percent of their voting shares widely held and publicly traded by December 31, 1991, or within five years of reaching \$50 million in capital. Trust, loan and insurance companies with no commercial links and over \$750 million in capital will be required to have at least 35 percent of their voting shares widely held and publicly traded by December 31, 1991, or within five years of reaching \$750 million in capital, and once this size is reached no shareholder will be permitted to acquire more than 10 percent of the shares.

10.1.3. Regulation of Financial Institutions

In addition to the ownership approach to self-dealing and conflict of interest, there are proposals to deal with these and other regulatory issues directly. These proposals include strict controls on self-dealing (with an exemption for transactions between a parent and a subsidiary), and a strengthened role for directors and auditors.

10.1.4. Supervision and Deposit Insurance

These proposals address the criticisms which arose out of the recent bank and trust company failures, as well as funding and other problems connected with the deposit insurance system. Federal supervision of financial institutions will be consolidated under the Office of the Superintendent of Financial Institutions, which will receive advice from a committee of technical experts. There will be better procedures for assuming control of troubled institutions and for restructuring such institutions. The Canadian Deposit Insurance Corporation will remain a separate body, but its powers to levy premiums and surcharges, to obtain information and to refuse coverage will be expanded.

These proposals for reform will have a significant impact on the financial sector in Canada. In particular, the expanded powers of financial institutions - common-ownership, greater in-house powers, and networking - will greatly increase competition among institutions, for both existing and new forms of business. While the

ownership proposals will require new equity issues or divestiture by some non-financial companies with trust company subsidiaries, the final proposals are less stringent than the initial proposals. These proposals have generally been well received by the financial community, as well as by other business sectors and the general public.

#### 10.2. Provincial Proposals for Deregulation

Both Ontario and British Columbia have announced measures to reform provincial regulation of financial institutions. In December 1986, Ontario announced new entry and ownership rules for Ontario investment dealers. Effective June 30, 1987, Canadian financial institutions or any other Canadian investor will be permitted to own up to 100 percent of an Ontario securities dealer. Non-residents will be permitted to acquire up to 50 percent of a securities dealer on June 30, 1988. Foreign dealers who wish to enter the Ontario market directly will be allowed to register on June 30, 1987, but they will be restricted to the exempt market until June 30, 1988.

These changes are consistent with the federal proposals. Similarly, British Columbia has announced its intention to permit both Canadian and non-resident firms, including banks, credit unions and other financial institutions, to participate in its securities business, beginning on July 1, 1987.

### 11 SOURCES OF FEDERAL GOVERNMENT FINANCING

#### 11.1 Federal Business Development Bank

The Federal Business Development Bank (FBDB) is a crown corporation that exists to promote and assist most types of businesses in Canada, either at the start-up stage or at some other stage in their development. It pays particular attention to the needs of small and medium-sized businesses. FBDB offers two principal services to Canada's business community: financial services such as loans, loan guarantees, and venture capital, and management services such as counselling, planning, training, and information.

The FBDB complements the services offered by financial institutions in the private sector by providing worthwhile projects with funds that are not available elsewhere on reasonable terms and conditions.

11.1.1 The Financial Services of the FBDB include term loans, loan guarantees, and a venture capital program.

Term Loans are offered to acquire fixed assets such as land, building, machinery and equipment. They are also made to acquire other businesses, to increase working capital, and to finance increased sales. These loans are offered on both a fixed and floating interest rate basis. Loan terms are up to 10 years, with amortization depending on the nature of the loan, the security and the client's ability to repay.

Loan Guarantees are provided to financial institutions on behalf of a client. A small commission is involved and security is the same required under a term loan.

The Venture Capital Division of the FBDB is designed to assist companies which have high growth potential but limited access to the capital market. Its primary goal is to increase the amount of venture capital available to promising small and medium-sized businesses in Canada, by using its own capital or by attracting equity financing from private financial institutions. When FBDB invests its own funds in a company, its policy is generally to remain a minority shareholder and to divest itself of its holdings as soon as feasible for both the company and FBDB.

11.1.2 The Management Services of FBDB provide one of the most important sources of business counselling, training and information for small- and medium-sized businesses in Canada. The services are broken out into nine categories and are briefly outlined below:

Financial Planning Program: the Financial Planning Program provides a referral service called Financial Matchmaking which brings investors together with people seeking funds. It also includes a service that draws up financial proposals for clients and another that helps them do strategic business planning. In addition, this program offers a series of do-it-yourself business kits.

CASE (Counselling Assistance to Small Enterprises): through this program, more than 1,100 successful retired business people assist firms in improving their methods of doing business. They provide counselling in all areas of business management, including accounting, marketing, production and personnel. Any type of small business (no more than 75 employees) is eligible for CASE counselling services. Being a borrower from FBDB is not a requirement, and counselling costs are moderate. Travel expenses of counsellors are paid by the bank to ensure that this service is available to businesses across the country, at the same moderate cost.

Business Management Seminars: the FBDB seminar program consists of a variety of full-day and half-day seminars on topics such as bookkeeping, personnel, marketing, taxation and finance. Twenty-five different business topics are presently covered by FBDB seminars.

Joint Seminars: joint seminars are special adaptations of FBDB's regular half-day and full-day seminars on various topics, ranging from general management and marketing to finance and personnel. These are generally presented to associations or special groups requiring seminars to meet the specific needs of their members.

Management Video Clinics: a management clinic is a unique, self-teaching program for business owners and those considering the big step to self-employment. It consists of two integral parts: a videocassette, which can be viewed at the branch, and a workbook, which can be completed at the client's office or home. Management video clinics on nine topics are now available.



Business Management Courses: these courses are 30-hour training programs developed by the FBDB and distributed in cooperation with provincial and territorial educational authorities. Offered through adult education programs at community colleges across Canada (CEGEPs in Quebec), the courses are aimed at business people interested in improving their management techniques. There are now some 20 courses available on subjects in the areas of general management, finance, marketing and personnel.

Minding Your Own Business (MYOB): this is a four-volume pocketbook series that presents, in a straightforward, easy-to-read style, the important steps of running a successful business. This series covers general small business management, retailing, services businesses, and manufacturing.

Small Business Information Service (SBIS): all branches of the FBDB can provide a wide range of information to business people. Supported by its AIM (Automated Information for Management) computerized database, the bank offers a personalized information service outlining federal, provincial and municipal government assistance programs, as well as a listing of local business opportunities and sources of other information. The FBDB can also supply quick responses related to sources of information through its BIC (Business Information Centres) toll-free telephone enquiry service. In addition, the FBDB presents free information sessions and workshops, and publishes a handbook on government assistance programs. This book, entitled Assistance to Business in Canada (ABC), is available with a special supplement for each province and territory.

Publications: FBDB also publishes Profits, a quarterly tabloid. This publication regularly features various FBDB services, in addition to articles of current interest to the small and medium-sized business community. There is no mailing list for Profits, as it is automatically distributed to all businesses across Canada through Canada Post.

For additional information, please contact the nearest FBDB Office.

FEDERAL BUSINESS DEVELOPMENT BANK

HEAD OFFICE

Atlantic Region

Federal Business Development Bank  
800 Victoria Square  
PO Box 335  
Montreal, Quebec  
H4Z 1L4  
(514) 283-5904  
1-800-361-2126

Federal Business Development Bank  
Cogswell Tower  
Scotia Square, Suite 1400  
PO Box 1656  
Halifax, Nova Scotia  
B3J 2Z7  
(902) 426-7860

Quebec Region

Ontario Region

Federal Business Development Bank  
800 Victoria Square, Suite 4600  
PO Box 190  
Montreal, Quebec  
H4Z 1C8  
(514) 283-3657

Federal Business Development Bank  
777 Bay Street, 29th Floor  
Toronto, Ontario  
M5G 2C8  
(416) 973-1144



Prairie and Northern Region

(Manitoba, Saskatchewan, Alberta  
and Northwest Territories)  
Federal Business Development Bank  
161 Portage Avenue, Suite 300  
Winnipeg, Manitoba  
R3B 0Y4  
(204) 949-7811

British Columbia and Yukon

Federal Business Development Bank  
900 West Hastings Street  
Vancouver, British Columbia  
V6C 1E7  
(604) 666-7800

11.2 Export Development Corporation

The Export Development Corporation (EDC) is a crown corporation whose purpose is to facilitate and develop Canada's export trade. It does so by offering services in three broad categories: insurance, guarantees and export financing. Any company or person operating a business in Canada can make use of EDC's services provided there is an export sale, the transaction is economically sound, the foreign buyer is credit-worthy, and the goods and services to be exported have a Canadian content of at least 60 percent.

11.2.1 Export Insurance

Export insurance covers two types of risks - commercial and political. Commercial risks insured are insolvency of the foreign buyer, default of the foreign buyer, repudiation by the foreign buyer, and termination of a contract by the foreign buyer. Political risks insured are blockage of the funds or transfer problems, cancellation or non-renewal of export or import permits, war or revolution in the buyer's country, expropriation of a foreign investment, wrongful call of performance bonds by a foreign buyer, and rightful calls outside the control of the exporter. EDC normally assumes 90 percent of the commercial and political risks, and insures almost any type of

transaction involving goods, services or technology. It provides the exporter with various types of insurance policies such as those covering short- or medium-term credit transactions, surety risks, foreign investments and loan pre-disbursement. The premiums for EDC insurance are based on: the type of goods or service, the buyer, the country, terms of credit, spread of risk, and the type of insurance being provided.

### 11.2.2 Export Guarantees

EDC provides guarantees to banks and other financial institutions which make loans or issue performance or bid securities for Canadian export sales. Unconditional guarantees against losses incurred in financing an export transaction are made available to banks which provide financing to EDC-insured exporters, or which provide loans to buyers of Canadian capital goods and services. Guarantees can also be provided to a bank which has extended a short-term line of credit to a foreign bank to finance an export sale of Canadian goods or services. In international transactions requiring the posting of security guaranteeing that the exporter will perform in accordance with the terms and conditions of the contract (construction projects) or the actual bid itself, EDC can issue a 100 percent unconditional guarantee to banks or other financial institutions. This enables the exporter and his bank to supply the requisite securities demanded by the foreign buyer without tying up the exporter's working capital.

### 11.2.3 Export Financing

Export financing is provided to foreign buyers of Canadian capital goods, equipment and services. Funds are disbursed by EDC directly to the exporter on behalf of the foreign buyer, which effectively results in a cash sale for the exporter. Export financing is available for up to 85 percent of the contract value, at both fixed and floating interest rates, for medium- and long-term transactions to help Canadian exporters compete on a equal basis with exporters from other countries. The financing can take the form of a loan, line of credit, multiple disbursement agreement loan (single buyer of goods or services from various Canadian exporters in the execution of a project) or note purchase program (EDC purchases a series of promissory notes which are drawn by a foreign buyer and made payable to the exporter). EDC also provides medium-term financing to small- and medium-sized exporters (i.e. export transactions of \$1 million or less) through its regional offices as well as Ottawa headquarters.

For additional information, please contact the nearest EDC office.

Banking and Finance

HEAD OFFICE

Export Development Corporation  
151 O'Connor Street  
PO Box 655  
Ottawa, Ontario  
K1P 5T9  
TELEPHONE: (613) 598-2500  
TELEX: 053-4136  
FACSIMILE: (613) 237-2690

British Columbia and Yukon Region

Export Development Corporation  
One Bentall Centre  
505 Burrard Street, Suite 1030  
Vancouver, British Columbia  
V7X 1M5  
TELEPHONE: (604) 688-8658  
FACSIMILE: (604) 688-3710

Atlantic Region

Export Development Corporation  
Toronto-Dominion Bank Building  
1791 Barrington Street  
Suite 1003  
Halifax, Nova Scotia  
B3J 3L1  
TELEPHONE: (902) 429-0426  
TELEX: 019-21502

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Prairie and Northern Region

(Alberta, Saskatchewan, Manitoba  
and Northwest Territories)  
Export Development Corporation  
Bow Valley Square III  
255-5th Avenue South West  
Suite 2140  
Calgary, Alberta  
T2P 3G6  
TELEPHONE: (403) 294-0928  
FACSIMILE: (403) 294-1133

Ontario Region

Export Development Corporation  
National Bank Building  
150 York Street, Suite 810  
PO Box 810  
Toronto, Ontario, M5H 3S5  
TELEPHONE: (416) 364-0135  
TELEX: 06-22166  
FACSIMILE: (416) 862-1267

Quebec Region

Export Development Corporation  
800 Victoria Square, Suite 2724,  
PO Box 124  
Tour de la Bourse Postal Station  
Montreal, Quebec  
H4Z 1C3  
TELEPHONE: (514) 878-1881  
FACSIMILE: (514) 878-9891

APPENDIX I

THE CHARTERED BANKS OF CANADA

as of 31 December 1986

Domestic Banks (Schedule A)

Bank of Montreal  
1 First Canadian Place  
Toronto, Ontario M5X 1A1

Toronto Dominion Bank  
PO Box 1, Toronto Dominion Centre  
Toronto, Ontario M5K 1A2

Canadian Imperial Bank of Commerce  
Commerce Court  
Toronto, Ontario M5L 1A2

Bank of Alberta  
10040-104 Street, Suite 1200  
Edmonton, Alberta T5J 3X6

Continental Bank of Canada  
130 Adelaide Street West  
Toronto, Ontario M5H 3R2

Bank of Nova Scotia  
44 King Street West  
Toronto, Ontario M5H 1H1

National Bank of Canada  
600 de la Gauchetière West  
Montreal, Quebec H3B 4L2

The Royal Bank of Canada  
1 Place Ville Marie, PO Box 6001  
Montreal, Quebec H3C 3A9

Bank of British Columbia  
555 Burrard Street, Suite 1725  
Vancouver, British Columbia V7X 1K1

Western & Pacific Bank of Canada  
555 Burrard Street, Suite 1585  
Vancouver, British Columbia V7K 1M9

Foreign Bank Subsidiaries (Schedule "B")

ABN Bank Canada  
Toronto-Dominion Centre, Suite 3402  
Toronto, Ontario M5K 1G8

ANZ Bank of Canada  
North Tower, Suite 1880  
Royal Bank Plaza  
Toronto, Ontario M5J 2J3

BT Bank of Canada  
Royal Bank Plaza, N Tower, 16th Fl.  
Toronto, Ontario M5J 2J2

Bank of Boston Canada  
500 Dorchester Blvd West, Suite 1400  
Montreal, Quebec H2Z 1W7

The Chase Manhattan Bank of Canada  
150 King Street West, Suite 1600  
Toronto, Ontario M5H 1J9

Bank of America Canada  
4 King Street West, 18th Floor  
Toronto, Ontario M5H 1B6

Barclays Bank of Canada  
Commerce Court West, Suite 3500  
Toronto, Ontario M5L 1G2

Banco Central of Canada  
330 Bay Street, Main Floor  
Toronto, Ontario M5H 2S8

Chemical Bank of Canada  
150 York Street, Suite 1900  
Toronto, Ontario M5H 3S5

## Banking and Finance

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Citibank Canada  
123 Front Street West, Suite 1900  
Toronto, Ontario M5J 3M3

Banca Commerciale Italiana of Canada  
130 Adelaide Street West, Suite 1800  
Toronto, Ontario M5H 3P5

Bank of Credit and Commerce Canada  
1 First Canadian Place, Suite 3333  
Toronto, Ontario M5X 1B1

Crédit Lyonnais Canada  
2000 Mansfield Street, 18th Floor  
Montreal, Quebec H3A 3A6

Dai-Ichi Kangyo Bank (Canada)  
Commerce Court West, Suite 3740  
Toronto, Ontario M5L 1H9

Dresdner Bank Canada  
2 First Canadian Place, Suite 1700  
Toronto, Ontario M5X 1E3

The First National Bank of Chicago  
(Canada)  
2 First Canadian Place, Suite 2300  
Toronto, Ontario M5X 1E4

Bank Hapoalim (Canada)  
1 First Canadian Place, 63rd Floor  
Toronto, Ontario M5X 1A9

The Industrial Bank of Japan (Canada)  
Commerce Court North, Suite 1200  
Toronto, Ontario M5L 1G3

Irving Bank Canada  
Commerce Court East, Suite 700  
Toronto, Ontario M5L 1E8

Korea Exchange Bank of Canada  
2 First Canadian Place, Suite 1140  
Toronto, Ontario M5X 1E3

Lloyds Bank Canada  
Toronto-Dominion Centre, Suite 2802  
Toronto, Ontario M5K 1J5

Comerica Bank Canada  
2 First Canadian Place, Suite 2145  
Toronto, Ontario M5X 1E3

Continental Illinois Bank (Canada)  
1 First Canadian Place, Suite 6000  
Toronto, Ontario M5X 1H2

Crédit Commercial de France (Canada)  
1155 Dorchester Blvd West, Suite 2305  
Montreal, Quebec H3B 2K2

Crédit Suisse Canada  
Commerce Court West, Suite 2400  
Toronto, Ontario M5L 1K2

Deutsche Bank (Canada)  
2 First Canadian Place, Suite 3600  
Toronto, Ontario M5X 1E3

First Interstate Bank of Canada  
2 First Canadian Place, Suite 800  
Toronto, Ontario M5X 1E3

Fuji Bank Canada  
130 Adelaide Street West, Suite 3200  
Toronto, Ontario M5H 3R6

Hanil Bank Canada  
1055 Dunsmuir Street, Suite 2674  
Vancouver, British Columbia V7X 1L3

Hongkong Bank of Canada  
200 Granville Street, Suite 1818  
Vancouver, British Columbia V6C 1L3

International Commercial Bank of Cathay  
(Canada)  
150 York Street, Suite 910  
Toronto, Ontario M5H 3S5

Israel Discount Bank of Canada  
150 Bloor Street West, Suite M100  
Toronto, Ontario M5S 2Y5

Bank Leumi le-Israel (Canada)  
3055 Bathurst Street, 2nd Floor  
Toronto, Ontario M6B 3B7



## Banking and Finance

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Mellon Bank Canada  
1 First Canadian Place, Suite 6400  
Toronto, Ontario M5X 1A4

Mitsubishi Bank of Canada  
Commerce Court West, Suite 2300  
Toronto, Ontario M5L 1A1

Morgan Bank of Canada  
Royal Bank Plaza, S Tower, Suite 2250  
Toronto, Ontario M5J 2J2

National Bank of Detroit, Canada  
Royal Bank Plaza, N Tower, Suite 895  
Toronto, Ontario M5J 2J3

Banque Nationale de Paris (Canada)  
1981 McGill College Ave., Suite 100  
Montreal, Quebec H3A 2W8

Paribas Bank of Canada  
2 First Canadian Place, Suite 2520  
Toronto, Ontario M5X 1E3

Sanwa Bank Canada  
Commerce Court West, Suite 3950  
Toronto, Ontario M5L 1G3

Société Générale (Canada)  
1155 University Street, Suite 1100  
Montreal, Quebec H3B 3A7

State Bank of India (Canada)  
Royal Bank Plaza, N Tower, Suite 401  
Toronto, Ontario M5J 2J2

Standard Chartered Bank of Canada  
55 University Avenue, 14th Floor  
Toronto, Ontario M5J 2H7

The Bank of Tokyo Canada  
Royal Bank Plaza, S Tower, Suite 2160  
Toronto, Ontario M5J 2J1

Manufacturers Hanover Bank of Canada  
20 Queen Street West, Suite 3400  
Toronto, Ontario M5H 3R3

Midland Bank Canada  
2 First Canadian Place, Suite 1100  
Toronto, Ontario M5X 1E3

The Mitsui Bank of Canada  
2 First Canadian Place, Suite 2531  
Toronto, Ontario M5X 1E3

National Bank of Greece (Canada)  
852 Jean Talon Street West  
Montreal, Quebec H3N 1S4

National Westminster Bank of Canada  
Royal Bank Plaza, S Tower, Suite 2060  
Toronto, Ontario M5J 2J1

Banca Nazionale del Lavoro of Canada  
1 First Canadian Place, Suite 6965  
Toronto, Ontario M5X 1E1

Overseas Union Bank of Singapore  
(Canada)  
121 King Street West, Suite 1000  
Toronto, Ontario M5H 3T9

Republic National Bank of New York  
(Canada)  
1981 McGill College Ave., Suite 150  
Montreal, Quebec H3A 3A7

Security Pacific Bank of Canada  
999 West Hastings Street, Suite 600  
Vancouver, British Columbia V6C 2X9

Swiss Bank Corporation (Canada)  
207 Queen's Quay West, Suite 780  
Toronto, Ontario M5J 1A7

Union Bank of Switzerland (Canada)  
2 First Canadian Place, Suite 1000  
Toronto, Ontario M5X 1E5















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## TAXATION

In Canada, all three levels of government (federal, provincial or territorial, and municipal), levy taxes on both individuals and businesses. The federal government levies an income tax, indirect sales tax, excise tax and customs duties. The provincial governments impose income tax, retail sales tax, and taxes or royalties on natural resources. At the municipal level, there are property taxes and school taxes.

The federal government administers and collects personal income tax on behalf of all provinces, with the exception of the province of Quebec, which has not entered into a tax collection agreement with the federal government. The province of Quebec sets its own personal income tax base and tax rates. In the remaining nine provinces, the provincial income tax on individuals is levied as a percentage of federal basic income tax. The federal government also administers and collects corporate income tax on behalf of provincial governments; however, the provinces of Alberta, Quebec and Ontario administer and collect their own corporate income tax. These three provinces generally follow federal corporate income tax legislation in defining taxable income, although there are some differences.

This chapter outlines the main components of the tax system in Canada; however, it should be noted that this provides a summary only and potential investors are advised to consult a tax expert for detailed advice on the tax implications of a particular investment or business transaction.

### 1

#### TAX REFORM PROPOSALS

Tax reform has been under discussion in Canada for several years. In May 1985, the Minister of Finance published a policy paper on tax reform, entitled "The Corporate Income Tax System - A direction for Change", which contained proposals for restructuring the corporate income tax system. These proposals were designed to meet the principles of market efficiency, certainty, simplicity, and stability of tax revenues. The main thrust of these proposals was to eliminate special tax incentives for particular corporations and sectors, by broadening the tax base and reducing the statutory tax rates for all corporations. These proposals were the subject of much public debate. In October 1986, the Minister of Finance released an additional policy paper on tax reform entitled "Guidelines for Tax Reform in Canada", which outlined the government's intentions for proceeding with tax reform. By this time, the government had expanded its agenda for tax reform to include the personal income tax and the federal sales tax, in addition to the corporate income tax. Similarly, the policy principles for tax reform were expanded to include fairness, international competitiveness and balance (i.e. less reliance on personal income taxes in raising federal revenues).



On June 18, 1987, the Finance Minister released the White Paper on Tax Reform, which contains the government's proposals for restructuring the personal and corporate income taxes and the federal sales tax. The government intends to implement these proposals in two stages. In the first stage, the changes to personal and corporate income taxes will be implemented, most of these will take affect in 1988. In the second stage, the existing federal manufacturers' sales tax will be replaced by one of the three sales tax options outlined in the White Paper. No date has been set for the stage two sales tax reform, but the government has indicated that it wants to move ahead as quickly as possible on the stage two proposals.

In the sections below that deal with income taxation (Section 1 - Corporate Income Tax, and Section 4 - Personal Income Tax), the proposals for income tax reform contained in the White Paper are indicated where relevant. While these proposals are not yet law, the government intends to pass the necessary legislation as soon as possible. Public hearings will be held during the summer and fall, and it is expected that legislation will be passed in the first half of 1988 in order to allow the income tax reform measures to become effective for the 1988 taxation year as planned.

The proposals for sales tax reform are outlined in Section 5 - Federal Sales and Excise Taxes.

## 2 CORPORATE INCOME TAX

As a general rule, all corporations resident in Canada are subject to income tax. The tax is levied on income earned in the taxation year from all sources worldwide. The taxation year for a corporation corresponds to the fiscal period for which its annual financial statements are prepared. Corporate income tax is levied on taxable income, which is calculated by adjusting the coporation's financial statement income to reflect the provisions of the Income Tax Act. For example, an adjustment is required where financial statement depreciation charges differ from capital cost allowances specified under the Income Tax Act.

### 2.1 Tax Rates

The general federal tax rate of 46percent (45percent on July 1, 1987) is reduced by a 10percentage point abatement for provincial/territorial income taxes, which results in a net federal tax rate of 36percent (35percent on July 1, 1987). The 10percentage point abatement does not apply to income earned outside Canada or in the Nova Scotia offshore, as no provincial tax is paid on such income. There are also special deductions which reduce the federal corporate income tax rate on manufacturing and processing income and on business income of eligible small corporations. In the 1986 budget, the government introduced phased-in reductions in corporate income tax rates, beginning on July 1, 1987. The Tax Reform paper released on June 18, 1987 proposes further reduction in the corporate income tax rate, beginning in 1988.

Effective January 1, 1987, there is a three percent surtax on all corporations. Although this surtax is viewed as a temporary measure, there is no expiry date for the surtax. The government has indicated, however, that the surtax will be removed when the stage two sales tax reform proposals are implemented.

Table 1 below provides the federal corporate income tax rates applicable to various types of corporate income for 1987-88. Table 2 provides the federal corporate income tax rates for 1988 to 1991 as proposed in the Tax Reform paper.

TABLE 1  
FEDERAL CORPORATE INCOME TAX RATES, 1987-88  
(percent of taxable income)<sup>1</sup>

	<u>Jan. 1, 1987 - June 30, 1987</u>	<u>July 1, 1987 - June 30, 1988</u>
General business	36	35
Manufacturing income	30	28
Small business <sup>2</sup>	15	14
Manufacturing small business	10	8

<sup>1</sup> Rates shown are after the 10 percentage point provincial abatement, but before the three percent corporate surtax.

<sup>2</sup> The small business rate applies to the first \$200,000 of taxable income of a Canadian-controlled private corporation (CCPC). The lower tax rate applies to business income (i.e. "active business income") and does not apply to other types of income such as investment income. Foreign-controlled corporations and corporations whose shares are publicly traded are not eligible for the small business tax rate. The lower tax rate for manufacturing businesses applies only to the net income from manufacturing or processing activities of the corporation, and not to other business activities of the corporation.

Source: Department of Finance, Budget Papers, February 26, 1986.

TABLE 2  
TAX REFORM PROPOSALS: FEDERAL CORPORATE INCOME TAX RATES, 1987-91<sup>1</sup>  
 (percent of taxable income)

	<u>Proposed Rates Effective July 1 of Each Year</u>			
	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991 and later years</u>
General business	28	28	28	28
Manufacturing business	26	25	24	23
Small business <sup>2</sup>	12	12	12	12

<sup>1</sup> The federal rates shown are after the 10 percentage point provincial abatement, but before the three percent corporate surtax. Note that small manufacturing businesses will be subject to the same tax rate as other small businesses.

<sup>2</sup> See Note 2, Table 1 for the applicability of the lower rates for manufacturing and small businesses.

Source: Department of Finance, The White Paper: Tax Reform 1987, June 18, 1987.

## 2.2 Payment of Income Tax

Corporations are required to pay income tax by monthly installments. The amount due at the end of each month during the corporation's taxation year is calculated on the basis of the corporation's estimated tax liability for the current tax year, or on the basis of actual tax paid over the previous year or previous two years. Any income tax still owing after these 12 monthly installments must be paid within two months of the end of the corporation's tax year. A new corporation is not required to pay monthly installments until after its first year of operation.

## 2.3 Calculation of Income for Tax Purposes

In calculating taxable income, a corporation's financial statement income is adjusted for the specific provisions of the Income Tax Act that require different treatment of revenues or expenses than the generally accepted accounting principles used in calculating financial statement income. Some of the main provisions of the Income Tax Act are outlined below. Changes proposed in the White Paper on Tax Reform are noted where relevant (summary of tax reform proposals in Section 1.6).

### 2.3.1 Deductibility of Expenses

As a general rule, any reasonable expenditure incurred to produce income from a business or property is fully deductible from income, including such items as entertainment expenses, directors' bonuses, and interest on money borrowed for business or investment purposes. The White Paper on Tax Reform proposes that the deduction for business meals and entertainment expenses be limited to 80 percent of the amount actually paid.

### 2.3.2 Depreciation (Capital Cost Allowances)

Depreciation for tax purposes (called Capital Cost Allowance, or CCA) is generally calculated on a pooled basis, with fixed assets being grouped together into a relatively small number of CCA classes. The amount of depreciation that may be claimed annually for tax purposes is then calculated separately for each CCA class, on the basis of the prescribed CCA rate applicable to the class. For most asset classes, CCA is calculated on a straight line or declining balance basis at rates varying from four percent to one hundred percent, depending on the type of asset and its estimated useful life. For assets acquired during the taxation year, the "half year rule" stipulates that only one-half of the normal CCA may be claimed for that asset.

For some assets, the generous CCA rate provides an accelerated write-off, resulting in a tax incentive for corporations that invest in these assets. The most important CCA incentive is provided for manufacturing equipment, for which there is an effective three-year straight line write-off (i.e. 50 percent straight line CCA rate combined with half year rule).

The White Paper on Tax Reform proposes to reduce the CCA rates applicable to a number of asset classes, so that the CCA rate more closely approximates the useful life of the asset in the class. The proposed CCA rates will be effective for assets acquired after 1987, and will be phased in over the years 1988 to 1990. It is also proposed that, beginning in 1990, CCA may be claimed only when the asset is actually put in use. Table 3 provides the current and proposed CCA rates for a number of common depreciable assets.

TABLE 3  
CURRENT AND PROPOSED CAPITAL COST ALLOWANCE RATES (percent)

<u>Asset</u>	<u>Current CCA Rate</u>	<u>Proposed CCA Rate</u>
Automobiles	30% DB <sup>1</sup>	no change
Buildings	5% DB	4% DB
Certified Canadian films	100%	30% DB (plus immediate write-off up to film income)
Computer hardware and systems software	30% DB	no change
Computer software	100%	no change
Drillships and offshore platforms	30% DB	25% DB
Manufacturing and processing machinery and equipment <sup>2</sup>	50 SL <sup>1</sup>	25% DB
Manufacturing retooling	immediate write-off	subject to half-year rule
Resource extraction assets	30% DB (plus immediate write-off up to income from new mine)	25% DB (plus immediate write-off up to income from new mine)

1. DB means declining balance, and SL means straight line. The CCA rates shown above do not include the effects of the half-year rule.
2. The proposed CCA rates for manufacturing and processing machinery and equipment will be phased in over four years as follows: 1988 - 40 percent DB; 1989 - 35 percent DB; 1990 - 30 percent DB; thereafter - 25 percent DB. For all other assets, the proposed CCA rates will apply to assets acquired after 1987.

Source: Department of Finance, Tax Reform 1987: Income Tax Reform, June 18, 1987; Richard De Boo Limited, Canada Tax Service

### 2.3.3 Loss Carry-over

If a corporation suffers a loss for tax purposes, the loss may be carried over to other taxation years and deducted from income. Non-capital losses (i.e. operating losses) may be carried back three years and forward seven years. Net capital losses may be carried back three years and forward indefinitely; however, capital losses can only be deducted from taxable capital gains in the carry-over years. Since only one-half of capital gains are taxable, only one-half of capital losses are deductible.



#### 2.3.4 Capital Gains

Only one-half of net capital gains is included in income for tax purposes. The White Paper proposes that the proportion of net capital gains that is taxable be increased from the current 50 percent to 66-2/3 percent in 1988 and 75 percent in 1990.

#### 2.3.5 Intercompany Dividends

Dividends received from a taxable Canadian corporation are fully deductible from income, thereby avoiding double taxation of corporate income.

#### 2.3.6 Inventory Valuation

For tax purposes, inventories may be valued at fair market value, or lower of cost and fair market value. Inventory valuation methods (such as average cost, FIFO) that follow generally accepted accounting principles are permitted for tax purposes, with the exception of LIFO, which is not allowed.

#### 2.3.7 Interest Expense

In general, interest expense incurred for the purpose of earning business or property income, or for the purchase of an income producing asset, is fully deductible from income. In the case of interest expense incurred to acquire vacant land or interest paid during the construction of a building, the corporation is required to capitalize the interest expense, unless the corporation is a real estate developer. The White Paper proposes to extend the requirement to capitalize interest costs related to vacant land and the construction of buildings to real estate developers as well. This requirement will be phased in over the five years 1988 to 1992.

#### 2.3.8 Transfer Pricing/Corporate Reorganizations

Transactions between taxpayers who do not deal at arm's length must take place at fair market value. Several exceptions are provided, however, to facilitate various corporate reorganizations, including transfers of assets to corporations under qualifying circumstances, and certain capital reorganizations, mergers and liquidations. These rules ensure that, in such circumstances, assets are considered to be transferred at their current cost for tax purposes, thereby postponing the tax that would be payable if the assets were considered to be transferred at their fair market value.

#### 2.3.9 Foreign Tax Credit

As noted above, corporations are taxed on their income from all sources worldwide. In order to prevent double taxation, a Canadian corporation that also carries on business in a foreign country is permitted to deduct from its Canadian income tax otherwise payable a credit in recognition of foreign income or profits tax paid. The foreign tax credit is limited to the lesser of the foreign taxes actually paid and the Canadian income tax otherwise payable on the foreign source income. Unused foreign tax credits may be carried back three years and forward seven years.

## 2.4 Tax Incentives and Special Tax Measures

This section outlines a number of corporate income tax incentives and special tax treatment of particular types of corporations contained in the Income Tax Act. It should be noted, however, that the main thrust of tax reform is to broaden the tax base and lower tax rates, thus reducing or eliminating most tax incentives. For example, the accelerated Capital Cost Allowances for manufacturing equipment and the Investment Tax Credit will be eliminated under the tax reform proposals. In the place of these special incentives that are available to particular sectors or for particular types of investments, the tax reform proposals call for reduced tax rates for all corporations. In the section below, some of the major existing incentives and special tax measures are outlined, as well as the changes proposed under tax reform.

### 2.4.1 Investment Tax Credit

An investment tax credit is currently provided for investments in certain depreciable assets. The investment tax credit (ITC) is calculated as a percentage of the acquisition cost of the eligible asset, and the ITC is claimed as a credit against federal income tax otherwise payable. To qualify for the ITC, the asset must be used primarily in one of the following activities: manufacturing or processing; exploration, development or production of petroleum or minerals; logging; farming; fishing; construction; or transportation (see 1.4.2 for ITC available on R&D expenditures). The ITC applies mainly for investment in machinery and equipment, although some plant and buildings are also eligible for the credit. The rate of ITC varies with the geographic region in which the asset is used, ranging from a basic rate of five percent for most of Canada to a special 69percent rate for Cape Breton. Table 4 below provides the current ITC rates, as well as the proposed rates as the ITC is phased out under tax reform.

The amount of ITC reduces the allowable cost base for computing CCA (i.e. tax depreciation). If a corporation is unable to use all of its allowable ITC, the credit is partially refundable. For large corporations, 20percent of the unused portion of ITC is refundable, and for small corporations (i.e. Canadian-controlled private corporations - CCPC), 40percent of the unused portion of ITC is refundable. Unused ITC may be carried back three years and forward seven years.

The White Paper on Tax Reform proposes to limit the annual claims and refunds allowed for ITC. It is proposed that, beginning in 1988, the annual claim for ITC will be limited to one-half of federal tax payable. A special rule will permit the ITC to offset 100 percent of federal tax payable for small Canadian-controlled private corporations on their income taxed at the lower tax rate. It is also proposed that the 20percent refundable portion of ITC available to large corporations be eliminated after 1987. For small corporations (CCPCs), the 40 percent limit will remain intact.

TABLE 4  
INVESTMENT TAX CREDIT RATES, 1987-1989 (percent)

<u>Location</u>	<u>Current Rate</u>	<u>Proposed Rates Under Tax Reform</u>	
	<u>1987</u>	<u>1988</u>	<u>1989</u>
Basic rate applicable <sup>1</sup> to most of Canada	5	3	0
Designated areas	7	3	0
Manufacturing in designated areas	40	40	30
Atlantic region	20	20	15
Cape Breton	60	60	45
High-cost exploration	25	25	25

<sup>1</sup> The basic rate applies to Southern Ontario, parts of Quebec, Alberta and British Columbia. The higher rate for designated areas applies to Saskatchewan, Manitoba, northern Ontario and parts of Quebec.

Source: Department of Finance, Tax Reform 1987: Income Tax Reform, June 18, 1987.

#### 2.4.2 Incentives for Research and Development

Special tax incentives are available to encourage corporations to undertake research and development. Both current and capital expenditures on eligible R&D activities can be written off in the year incurred. In addition, there is an investment tax credit available for current and capital R&D expenditures. The ITC for R&D applies to current expenses (such as wages and salaries) as well as expenditures on buildings and equipment used in qualified R&D activities. The ITC rate for R&D expenditures is 20 percent for large corporations (30 percent for large corporations carrying out R&D in the Atlantic region), and 35 percent for small corporations eligible for the lower federal tax rate (i.e. Canadian-controlled private corporations). Currently, the ITC related to R&D expenditures is 100 percent refundable for the first \$700,000 of ITC for current R&D expenses of small corporations (i.e. CCPCs), and 40 percent refundable for large corporations and for capital R&D expenses of small corporations and amounts over the \$700,000 limit for current expenses.

Under the tax reform proposals, the immediate write-off and the ITC will not apply to buildings after 1987, except for special structures such as wind tunnels. The immediate write-off and ITC for current R&D expenditures and for capital R&D expenditures other than buildings (e.g. equipment) will remain unchanged. The ITC related to R&D expenditures will remain 100percent refundable for the first \$700,000 of ITC for current R&D of small corporations (and 40percent for ITC on capital R&D and for ITC over the \$700,000 limit). For large corporations, the ITC will not be refundable after 1987 and limits will be placed on the ITC that can be claimed in one year.

#### 2.4.3 Low Tax Rates for Manufacturing Companies and Small Businesses

Lower corporate income tax rates are applicable to income earned from manufacturing and processing, and for business income earned by small corporations. The tax rates, and types of income and corporations eligible for the lower tax rates are outlined in Section 1.1 - Tax Rates.

#### 2.4.4 Accelerated Depreciation (Accelerated Capital Cost Allowance)

Fast write-offs are permitted for certain depreciable assets through generous Capital Cost Allowance (CCA) rates. The main assets for which accelerated CCA is currently available are: manufacturing and processing machinery and equipment (50percent straight line), manufacturing retooling (100percent), resource extraction assets (30percent declining balance), and certified Canadian films (100percent). Under the tax reform proposals, these incentive CCA rates will be reduced to bring depreciation for tax purposes more in line with depreciation shown in financial statements. A more complete description of the CCA system, including the current and proposed tax reform CCA rates, is provided in Section 1.3.2 - Depreciation (Capital Cost Allowances).

#### 2.4.5 Special Tax Measures for the Oil and Gas Companies

Oil and gas companies are permitted to deduct from income a resource allowance of 25percent of resource profits. The resource allowance is provided in recognition of royalties paid by oil and gas companies to provincial governments (provincial resource royalties are not deductible from income for tax purposes). The resource allowance is 25percent of the company's resource profits, calculated before deducting exploration, development and financing costs.

There are also special rules for the deduction of exploration and development expenses. The costs of acquiring Canadian oil and gas properties are pooled and 10percent of the balance in the pool can be deducted from income each year (i.e. the cost of oil and gas properties is written off on a 10percent declining balance basis). The proceeds from the sale of an oil and gas property reduce the balance in the pool, and hence reduce the deduction for the year (if the balance is negative, this amount is added to income). Canadian exploration costs are 100percent deductible in the year incurred. Canadian development costs are pooled and 30percent of the balance is deducted from income annually (i.e. 30percent declining balance).



The "earned depletion allowance" has been eliminated, except for non-conventional oil projects (e.g. oil sands mining, enhanced oil recovery and heavy crude upgraders). For such projects, depletion is earned at a rate of \$1 for each \$3 of eligible exploration and development costs. The earned depletion allowance can be deducted from income up to a maximum of 25 percent of the corporation's resource profits for the year. There is no depletion allowance permitted for exploration and development costs for conventional oil and gas projects.

A special tax credit is available for high cost exploration. This credit is 25 percent of qualifying Canadian exploration expenses for oil and gas wells costing in excess of \$5 million. The credit reduces federal tax payable, and any unused tax credit is 40 percent refundable. Any remaining unclaimed tax credit can be carried back three years and forward seven years.

Under the tax reform proposals, the exploration tax credit will remain at the current rate of 25 percent. Beginning in 1988, the annual claim will be limited to one-half of federal tax payable. A special rule will permit the credit to offset 100 percent of federal tax payable for small Canadian-controlled private corporations on their income taxed at the lower tax rate. In addition, the credit will no longer be refundable for large corporations after 1987. For small corporations, the 40 percent refund will remain intact. The carry back period will remain three years, but the carry forward period will be increased from seven to 10 years.

#### 2.4.6 Special Tax Measures for Mining Companies

Mining companies are permitted to deduct from income a resource allowance of 25 percent of resource profits. The resource allowance is provided in recognition of royalties paid by mining companies to provincial governments (provincial resource royalties are not deductible from income for tax purposes). The resource allowance is 25 percent of the company's resource profits, calculated before deducting exploration, development and financing costs.

There are also special rules for the deduction of exploration and development expenses. The costs of acquiring Canadian mining properties are pooled and 30 percent of the balance in the pool can be deducted from income each year (i.e. the cost of mining properties is written off on a 30 percent declining balance basis). The proceeds from the sale of a mining property reduce the balance in the pool, and hence reduce the deduction for the year (if the balance is negative, this amount is added to income). Canadian exploration costs are 100 percent deductible in the year incurred.

Mining companies are also permitted to deduct depletion allowance from income. Depletion is earned at a rate of \$1 for each \$3 of qualifying Canadian exploration and development costs. The earned depletion allowance can be deducted from income up to a maximum of 25 percent of the corporation's resource profits for the year. There is no depletion allowance permitted for exploration and development costs for conventional oil and gas projects.



Under the tax reform proposals, the depletion allowance will be phased out. The current 33-1/3 percent rate at which depletion is earned will be reduced to 16-2/3 percent on June 30, 1988. The ability to earn depletion will be eliminated for expenditures incurred after June 30, 1989.

A special incentive Capital Cost Allowance (CCA) rate is available for new mines, which permits a deduction from income of the greater of the income from the mine and 30 percent of the cost of the new mine on a declining balance basis.

Through for operation of the incentive CCA rate for new mines, the fast write-off for exploration and development expenses, and the depletion allowance, a mining company is able to more than recover the capital costs of a new mine before paying federal income tax on the income from the new mine.

## 2.5 Other Relevant Factors

### 2.5.1 Other Taxes and Levies on Corporations

Corporations should be aware that a number of other taxes may be levied by the different levels of government, including capital taxes, property taxes, business taxes, licences and land transfer taxes. Investors should consult with the appropriate authorities for full information on the applicability and rates of these taxes.

All employers are required to make contributions on behalf of their employees to the Canada or Quebec Pension Plan and to the Unemployment Insurance Plan. These contributions must be made at prescribed rates by both employers and employees. Contributions to provincial workmen's compensation boards are also obligatory for most businesses.

### 2.5.2 Provincial Corporate Income Tax

Provincial income tax is calculated on the basis of taxable income allocated to each province in which a corporation has a permanent establishment. The allocation is usually made on the basis of the average of two ratios: the ratio of gross revenues earned in each province to total gross revenues and the ratio of wages and salaries paid in each province to total wages and salaries paid. The appropriate provincial income tax rate (or rates) is then applied to the resulting amount of taxable income to calculate provincial tax payable.

Quebec, Ontario and Alberta levy and collect their own corporate income tax. These three provinces generally follow the federal corporate income tax legislation, although there are some differences. In the remaining seven provinces and the two territories, the federal government collects provincial income on corporations by applying the provincial tax rates to the federal tax base. Table 5 provides the current provincial corporate tax rates.

TABLE 5  
PROVINCIAL AND TERRITORIAL CORPORATE INCOME TAX RATES<sup>1</sup>  
 (effective July 1, 1987 - percent of taxable income)

	<u>Small Companies<sup>2</sup></u>		<u>Large Companies</u>	
	<u>Mfg.</u>	<u>Other</u>	<u>Mfg.</u>	<u>Other</u>
Newfoundland	10	10	16	16
Prince Edward Island	10	10	15	15
Nova Scotia	10	10	15	15
New Brunswick	9	9	15	15
Quebec	3	3	5.5	5.5
Ontario	10	10	14.5	15.5
Manitoba	10	10	17	17
Saskatchewan	0	10	17	17
Alberta	0	5	9	15
British Columbia	11	11	15	15
Yukon	2.5	5	2.5	10
Northwest Territories	10	10	10	10

- 1 Newfoundland, Nova Scotia and Saskatchewan provide a tax holiday for new corporations. British Columbia will reduce its income tax rate on large corporations to 14 percent on January 1, 1988. Quebec imposes a surtax.
- 2 The lower rate on small companies applies to the first \$200,000 of active business income earned by Canadian-controlled private corporations.

## 2.6 Summary of Tax Reform Proposals

As stated in the White Paper on Tax Reform, the proposed changes to the corporate income tax are designed to:

- "- reduce corporate tax rates to encourage economically sound investments and to ensure our corporate tax system remains internationally competitive;
- broaden the tax base, reduce the disparity in effective tax rates among industries, and ensure more profitable corporations pay tax by reducing selective tax preferences;
- reduce the mismatch between the timing of tax deductions and actual economic costs, which gives rise to a deferral in tax; and
- curb artificial tax avoidance."

These changes will increase federal corporate income tax revenues by \$5 billion over five years.

### 2.6.1 Tax Rate Changes

Under tax reform, corporate income tax rates will be reduced, effective July 1, 1988. The basic federal rate for corporations will be 28 percent and the small business rate will be 12 percent (i.e. on the first \$200,000 of taxable income from an "active business" of a Canadian-controlled private corporation). For manufacturing corporations, the tax rate will be reduced in stages as follows: 26 percent, effective July 1, 1988; 25 percent, effective July 1, 1989; 24 percent, effective July 1, 1990; and 23 percent, effective July 1, 1991. See Tables 1 and 2 in Section 2.1, for more detail.

### 2.6.2 Capital Cost Allowances

The basic structure of the Capital Cost Allowance (CCA) system will remain in place; however, the CCA rates for certain classes of assets will be reduced. The major CCA rate changes are shown in Table 3. In addition, a new "put-in-use" rule applicable in 1990 will require that CCA cannot be claimed until an asset has been put in use.

### 2.6.3 Investment Tax Credit

The investment tax credit (ITC) currently available for investment in a range of depreciable assets, will be phased out by 1989, with the exception of investment in certain types of assets and in certain regions. The current five percent and seven percent ITC will be reduced to three percent in 1988 and eliminated in 1989. The special ITC available for investment in assets used in research and development or used in designated regions will be retained, although at lower rates in some cases. The tax reform proposals also call for limits on annual claims and allowable refunds. See Section 2.4.1 for a more detailed description of the current and proposed ITC.

### 2.6.4. Incentives for Research and Development

The investment tax credit (ITC) for research and development equipment will remain at current rates, except for buildings (i.e. 20 percent, 30 percent and 35 percent, depending on the size and location of the firm). The 100 percent write-off for current and capital R&D expenditures will also remain intact except for buildings. After 1987, the ITC and immediate write-off will no longer be available for expenditures on R&D buildings, except for specialized structures such as wind tunnels. The ITC related to R&D will remain 100 percent refundable for the first \$700,000 of ITC on current R&D expenses for small corporations and 40 percent refundable for capital R&D expenses and amounts over the \$700,000 limit. For large corporations, the ITC related to R&D will not be refundable and will be subject to the limits on annual claims. See Sections 2.4.1 and 2.4.2, for more detail on current incentives for R&D.

### 2.6.5 Capital Gains

At present, only one-half of capital gains is included in income for tax purposes. Under tax reform, the inclusion rate for capital gains will be increased to 66-2/3 percent in 1988 and 75 percent in 1990. The calculation of capital losses for tax purposes will also reflect these new inclusion rates.

### 2.6.6 Business Meals and Entertainment Expenses

Beginning in 1988, expenses for business meals and entertainment will be 80 percent deductible. The 80 percent limit will apply to business meals, meals and accommodation while travelling and entertainment (tickets for cultural or sporting events, etc.).

### 2.6.7 Preferred Share Dividends

A special tax will be levied on preferred share dividends, applicable to dividends paid after 1987 on preferred shares issued after June 18, 1987. The corporation paying the dividend will have the choice of paying either a 40 percent tax on the amount of preferred dividends paid (with no further tax owing by the recipient shareholder), or a 25 percent tax on dividends paid with an additional 10 percent tax payable by the recipient shareholder, if the recipient is either a specified financial institution or a public corporation.

The new tax will apply only to dividends paid on newly issued preferred shares, and will not apply to preferred shares issued prior to June 18, 1987 or to common share dividends. The special tax will also not apply to annual dividends of up to \$500,000 nor to dividends paid to a related corporation or a shareholder that owns 25 percent or more of the payor corporation.

The payor corporation will be permitted a deduction from taxable income of 250 percent of the amount of the special tax paid. For taxable corporations, this offset will be approximately equal to the special tax paid. For non-taxable corporations, this 250 percent deduction will not be of immediate benefit, thus reducing the attractiveness of preferred share financing. This measure is designed to remove the tax incentive for preferred financing by non-taxable corporations (i.e. corporations with losses or which have large deductions to offset income).

### 2.6.8 Resource Sector Tax Changes

For mining companies, the rate at which depletion can be earned will be reduced from the current 33-1/3 percent rate to 16-2/3 percent on July 1, 1988 and will be eliminated as of July 1, 1989. The same phased reduction of earned depletion will also apply to tar sands and enhanced oil recovery. The "at risk" rules for limited partnerships and rules for flow-through shares will be tightened.



### 2.6.9 Finance and Insurance Sector Tax Changes

Under current tax legislation, financial institutions which lend money are able to deduct reserves for future loan losses on a formula basis. This system allows deductions from income for losses not yet incurred. Under tax reform, formula-based reserves for future loan losses will be eliminated, and only specific reserves for identified doubtful loans will be deductible beginning with the 1988 tax year. A number of changes are also proposed for insurance companies, including changes to the calculation of reserves (i.e. reserves for investment in mortgages, bonds, etc., and policy and policy dividend reserves). In addition, a special 15percent tax will be levied on that portion of the investment income of life insurance companies that is available to fund certain of its life insurance liabilities. This tax will be imposed on life insurance companies in lieu of taxing its policyholders.

### 2.6.10 Real Estate Sector Tax Changes

Currently, real estate developers are permitted to deduct interest and soft costs related to vacant land or to the construction of a building, in the year in which these costs are incurred (other corporations must capitalize these expenses). It is proposed that such interest and soft costs must be capitalized by real estate corporations beginning in 1988. These new rules will be phased in over five years (i.e. 20 percent of such costs must be capitalized in 1988, rising to 100 percent in 1992).

### 2.6.11 Anti-avoidance Rule

A new, general anti-avoidance rule will be introduced. This new rule will include a "bona fide business purpose" test and will also apply to any transaction in a series of transactions (i.e. a "step transaction" rule).

## 3 TAXATION OF NON-RESIDENT CORPORATIONS AND INDIVIDUALS

### 3.1 International Agreements

Canada has entered into tax treaties with other countries to avoid double taxation on the same income and to prevent tax evasion. The provinces are not party to the formal tax treaties, but normally adhere to the provisions of the treaties. A list of those countries with which Canada has concluded a tax treaty is provided in Appendix I.

### 3.2 Withholding Tax

In the case of payments to a non-resident individual or corporation, a withholding tax is applied to payments of dividends, interest, salaries, bonuses, commissions, royalties, or other amounts for services rendered, as well as payments of pension benefits and retiring allowances. The statutory rate of Canadian withholding tax on payments to non-residents is 25percent. This is generally reduced to 15percent by Canadian tax treaties. Certain types of income, such as interest on government bonds and certain corporate bonds, are exempt from the withholding tax.



Management fees paid by a Canadian company to a non-resident head office are subject to withholding tax at normal rates; however, where the fee is for a specific cost or service, or for indirect expenses that can reasonably be considered as having been incurred on behalf of the Canadian company, there is no withholding tax. The tax authorities will disallow a deduction from income for excessive charges, and will also impose the withholding tax on excessive fees. The purpose of these provisions is to prevent the repatriation of profits by means of management fees.

### 3.3. Non-resident Corporations

A non-resident corporation is subject to tax only on the income the business earns in Canada and on the gains from the sale or disposition of a taxable Canadian property. The tax is computed on the same basis and at the same rates as for a resident corporation, except that the non-resident corporation would not be eligible for certain deductions such as the small business deduction.

### 3.4 Non-resident Branch Operations

The taxable income of a branch is treated in the same manner as if the branch were a foreign-controlled subsidiary carrying on business in Canada. There is an additional tax of 25percent applied to non-resident branch operations, but this rate may be limited by treaty.

### 3.5 Non-resident Members of a Partnership

A non-resident partner is subject to tax on his share of the partnership's income which is derived from business activity carried out in Canada. A non-resident partner is also subject to the additional tax of 25percent, as in the case of a non-resident branch. If the partnership's income includes amounts earned outside Canada, the non-resident partner can exclude his portion of such income from his Canadian taxable income.

### 3.6 Non-resident Owned Investment Corporations

Holding companies, which are wholly foreign owned and derive their income from the ownership of securities, are subject to a special tax rate of 25percent. In addition, taxable dividends paid are subject to a 25percent withholding tax (usually reduced by treaty), but the payment of dividends allows for a refund of the special 25percent tax paid by such a corporation.

### 3.7 Non-resident Individuals

Income derived in Canada by a non-resident individual is subject to income tax in the same manner and at the same rates as income of a resident. Tax treaties generally exclude the taxation of non-residents, but exemptions are not applicable where the individual becomes a resident of Canada (whether or not he remains a resident of another country), or where the non-resident has remained in Canada more than 183 days during the taxation year. In addition to income tax on income earned in Canada, non-residents are subject to the 25percent withholding tax, which may be reduced by treaty, on amounts paid or credited to them by residents of Canada.

#### 4 COMPARATIVE CORPORATE INCOME TAX TREATMENT: CANADA AND THE US

This section provides a comparison of the main provisions of the Canadian and US corporate income tax systems. While the Canadian tax reform proposals have not yet been enacted, the comparison is based on these proposals in order to compare the two corporate income tax systems after reform. Where the Canadian tax reform proposals call for a transition or phase-in period, this is noted in the comparison. Generally, the Canadian tax reform proposals will be effective in 1988, while most of the US tax reform measures came into effect in 1987.

##### 4.1 Tax Rates

Tables 6 and 7 below show the federal rates of corporate income tax in Canada and the US.

TABLE 6  
CANADIAN CORPORATE INCOME TAX RATES<sup>1</sup>  
(net federal rates only - percent of taxable income)

	<u>Proposed Rates Effective July 1 of Each Year</u>			
	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991 and later years</u>
General business	28	28	28	28
Manufacturing business	26	25	24	23
Small business	12	12	12	12

<sup>1</sup> The federal rates shown are after the 10 percentage point provincial abatement, but before the three percent corporate surtax. See Note 2, Table 1 for the applicability of the lower rates for manufacturing and small businesses.

Source: Department of Finance, The White Paper: Tax Reform 1987, June 18, 1987

TABLE 7  
US CORPORATE INCOME TAX RATES<sup>1</sup>  
(federal rates only - percent of taxable income)

<u>Taxable Income</u>	<u>Tax Rate</u> (Effective July 1, 1987 and on)
0 - \$50,000	15
\$50,000 - \$75,000	25
\$75,000 and over	34

- <sup>1</sup> The benefit of the lower rates is phased out at higher income levels by means of a five percent surtax. For taxable incomes over \$335,000, the flat 34 percent tax rate applies; however, the effective marginal tax rate for incomes in the range of \$100,000 to \$335,000 is 39 percent, due to the five percent surtax.

Source: Commerce Clearing House, Inc., 1987 US Master Tax Guide, 1986

In Canada, corporations are not permitted a deduction from income for corporate income taxes paid to a provincial government. A 10 percentage point abatement of federal tax is permitted instead. The tax rates shown in Table 6 are net federal tax rates (i.e. after abatement for provincial income tax). In the US, corporations are permitted to deduct state and local income taxes from taxable income. The US does not provide a lower tax rate for manufacturing companies.

Canadian provincial income tax rates on large corporations vary from 5.5 percent to 17 percent, with most provinces providing lower corporate tax rates for small and manufacturing companies. US state income tax rates vary from 0 percent to 12 percent, with some municipalities also levying a local income tax rate.

#### 4.2 Depreciation

In Canada depreciation for tax purposes (called Capital Cost Allowance, or CCA) is calculated on a pooled basis, with fixed assets being grouped together into a relatively small number of CCA classes. The amount of depreciation that may be claimed annually for tax purposes is then calculated separately for each CCA class, on the basis of the prescribed CCA rate applicable to the class. For most asset classes, CCA is calculated on a straight line or declining balance basis at rates varying from four percent to 100 percent, depending on the type of asset and its estimated useful life. Currently the "half-year" rule stipulates that only one-half of the normal CCA may be claimed for most assets in the year they are acquired. Beginning in 1990, a new "put-in-use" rule will require that an asset is actually put in use before CCA may be claimed.

In the US, depreciable property is grouped into eight asset classes on the basis of the asset's useful life: three years; five years; seven years; 10 years; 15 years; 20 years; 27.5 years; and 31.5 years. For example, an asset with a useful life of four years or less would be placed in the three year asset class. Generally, the declining balance and straight line methods of depreciation are used in calculating capital cost recovery for tax purposes, although other methods can be used under certain conditions. For the three-, five-, seven- and 10-year classes, the double declining balance method is used (i.e. double the rate that would be applicable under the straight line method), with a switch to straight line method at the point which maximizes the deduction. For the 15- and 20-year classes, the 150 percent declining balance method is used, with a switch to straight line at the point that maximizes the deduction. For the 27.5- and 31.5-year classes, the straight line method is used. Depreciation cannot be claimed until the asset is put in use, and the "half year" rule applies to depreciation claimed in the first year.

In both Canada and the US, tax reform will reduce the use of accelerated depreciation for tax purposes. The tax depreciation rates will generally be more generous in the US than in Canada, although the Canadian CCA rates will still allow a faster write-off than that implied by the useful life of the asset.

#### 4.3 Loss Carry-over Provisions

The loss carry-over provisions in the two countries are very similar. In Canada, non-capital losses (i.e. net operating losses) may be carried back three years and forward seven years. Net capital losses may be carried back three years and forward indefinitely; however, capital losses can only be deducted from net capital gains in the carry-over years. In the US, non-capital losses may be carried back three years and forward 15 years. Net capital losses may be carried back three years and forward five years, and may only be deducted from net capital gains in the carry-over years.

One major difference in the treatment of losses between the two countries is that the US permits the income or loss of subsidiaries to be consolidated with that of the parent corporation. Generally, the parent corporation must own at least 80 percent of the shares of the subsidiary corporation to be permitted to file a consolidated income tax return. In Canada, affiliated corporations are not permitted to file a consolidated tax return.

#### 4.4 Capital Gains

Currently, Canadian legislation requires the inclusion of one-half of capital gains in income for tax purposes. The inclusion rate will be increased under tax reform to 66-2/3 percent in 1988 and 75 percent in 1990. Similarly, the deductibility of capital losses will reflect the new inclusion rates for capital gains. In the US, net capital gains are taxable at the same corporate tax rate as ordinary business income.



#### 4.5 Intercorporate Dividends

The two countries differ in their treatment of intercorporate dividends. A Canadian corporation is allowed a 100 percent deduction from income for dividends received from a taxable Canadian corporation, as well as for dividends received from a foreign affiliate in which the corporation's equity ownership is not less than 10 percent. There is a special tax on preferred share dividends, but this tax is refundable for preferred dividends paid by taxable corporations (Section 2.6.7). The US allows an 80 percent deduction in the case of dividends received from non-affiliated corporations; dividends received from affiliated corporations are deductible in full. Dividends received from a foreign corporation are deductible only if the foreign corporation does significant business in the United States.

#### 4.6 Inventory Valuation

The treatment of inventories in the two countries differs in the accounting method allowed for tax purposes. The US permits corporations to use the LIFO (last-in first-out) method of valuing inventories for tax purposes if LIFO is used for financial statement purposes. Since LIFO values inventories at the cost of the most recent item, it roughly compensates for inflation by valuing inventories at replacement cost. During an inflationary period, this results in a lower net income for tax purposes than if an average cost or the FIFO (first-in first-out) method were used. LIFO is not acceptable for Canadian income tax purposes.

#### 4.7 Investment Tax Credit

In Canada, the investment tax credit (ITC) will be phased out by 1989 for most assets, with the exception of the ITC for assets used in special regions (such as the Atlantic region) and for assets used in research and development. In the US, the ITC was eliminated for assets acquired after 1985.

#### 4.8 Tax Incentives for Research and Development

In Canada, current and capital expenditures for qualifying R&D activities can be deducted from income in the year incurred. Buildings used for R&D cannot be expensed, except for specialized structures. In addition, there is an investment tax credit for both current and capital R&D expenditures of 20 percent for large corporations (30 percent for R&D undertaken in the Atlantic region) and 35 percent for small corporations eligible for the lower tax rate (i.e. Canadian-controlled private corporations). Buildings, other than specialized structures, are not eligible for the ITC. For small corporations, the first \$700,000 of ITC related to current R&D expenditures is fully refundable (40 percent refundable for amounts over that limit and for ITC on capital R&D expenses). For large corporations, the ITC for R&D is not refundable and is also subject to limits on the annual claim.



In the US, current expenditures for qualifying R&D are deductible from income in the year incurred. Capital expenditures for R&D must be depreciated over the useful life of the asset. There is also a 20percent tax credit for incremental R&D expenditures of a current nature (i.e. excluding depreciable assets). The credit applies to the excess of current expenditures on R&D in the year over the average R&D expenditures in the base period (usually the average R&D expenditures in the previous three years). The credit is not refundable and is subject to limits on annual claims. The credit is currently set to expire at the end of 1988, but an extension is possible if Congress decides the credit is beneficial.

The definition of "qualifying R&D activities" in the two countries is similar, except that the US does not provide any incentives for capital R&D expenditures (i.e. expenditures for equipment or other depreciable assets). In both Canada and the US, qualifying R&D must be experimental in a scientific or technological sense, and both countries exclude such activities as market research. In Canada, current costs must be directly attributable to R&D and capital costs must be all (or substantially all) attributable to R&D to qualify for the immediate write-off and the investment tax credit. In the US, current R&D costs must be directly related to research and development to qualify for the 100percent write-off and incremental tax credit (capital R&D expenditures do not qualify).

#### 4.9 Integration of Corporate and Personal Income Tax

The tax treatment of corporate income distributed to shareholders differs significantly between the two countries. In Canada, there is partial integration of the corporate and personal income tax through the dividend gross-up and tax credit system. This system operates in the following manner: dividends received by individuals from taxable Canadian corporations are subject to a 25percent gross-up (i.e. 125percent of the amount of dividends received is included in income) and receive a 16-2/3percent tax credit against personal income tax. For small corporations taxed at the lower federal tax rate (i.e. Canadian-controlled private corporations), the dividend gross-up and tax credit system results in full integration of the corporate and personal income tax. In other words, the total amount of income tax paid on business or investment income earned through a small Canadian-controlled private corporation and distributed to the shareholders is the same as if the income had been earned directly by the shareholders. For large corporations, this system provides an incentive for Canadians to invest in Canadian equities and provides partial recognition for corporate income tax paid.

The US has no integration of the corporate and personal income tax; however, there is an option for small corporations with no more than 35 non-corporate shareholders to be treated as a partnership for income tax purposes. Under this option (i.e. if the corporation elects to become an S corporation), the individual shareholders pay income tax at the personal level on the business income of the corporation, regardless of whether it is distributed or not. In this way the shareholders avoid double taxation on the income, but lose the benefit of deferring personal income tax on income retained in the corporation.

#### 4.10 Alternative Minimum Tax

Canada does not levy a minimum income tax on corporations (an alternative minimum tax is applicable to high income individuals who use tax preferences).

In the U.S. the alternative minimum tax (AMT) applies to both corporations and individuals. Corporations must pay the higher of their regular income tax liability and their alternative minimum tax liability. The AMT is 20 percent of the alternative minimum taxable income above the basic exemption of \$40,000 (this exemption is phased out at higher income levels). The tax base for AMT is calculated by adding back the value of tax preferences to income for regular income tax purposes. Examples of such adjustments and tax preferences are: tax-exempt interest; accelerated deductions for depreciation, R&D costs, and exploration and development costs; and bad debts deducted in the excess of actual losses. In addition to these adjustments, one-half of the difference between pre-tax book income over the AMT income is added to the base for AMT. The amount of AMT paid (i.e. AMT in excess of regular income tax) can be carried forward as a credit against regular tax in excess of AMT.

For those corporations using tax preferences, the complex calculation of AMT liability must be carried out each year in addition to the calculation of regular income tax. The inclusion of one-half of the difference between book income and AMT income could result in AMT liability due to timing differences between financial statements and income tax statements. As a result, the AMT is expected to become an important element in tax planning for many corporations in the U.S.

### 5 INCOME TAXATION OF INDIVIDUALS

Individuals resident in Canada are taxed on their income from all sources worldwide. For income tax purposes, an individual is considered a resident of Canada if he resided in Canada for 183 days or more. Income subject to taxation generally includes income from employment, income from a business or property and net capital gains. Generally, the taxation year of an individual is the calendar year, although if the individual is self-employed or a member of a partnership, the fiscal year of business can be used for calculating tax due on income from that source.

#### 5.1 Income Subject to Tax

Income subject to tax includes income from an office or employment, income from a business or property, capital gains and other sources of income.

### 5.1.1. Income from an Office or Employment

Income subject to tax includes salary, wages, commissions, gratuities, director's and other types of fees, and any other remuneration received by the individual from an office or employment during the year. Also included are employment benefits, such as the value of personal use of a company car, holiday trips paid for by the employer, rent-free accommodation, etc. The value of a subsidized or interest-free loan is also included in income except for the first \$25,000 of an interest-free home relocation loan. Fringe benefits that are not taxable include contributions made by the employer to a registered retirement pension or deferred profit-sharing plan, premiums paid by the employer to a group sickness or accident insurance plan, reimbursement of an employee's moving expenses, and premiums paid on a group term life insurance plan not exceeding coverage of \$25,000 per employee.

### 5.1.2 Income from a Business

Income from an unincorporated business is the net income of the business for the year, and is generally calculated in the same manner as for a corporation. Only farmers and commission sales people are permitted to use the cash accounting method for tax purposes; all others must use the accrual method. Income from a partnership is the partner's share of the net income of the partnership, whether distributed or not.

### 5.1.3 Income from Property

Income from property is the return on invested capital and includes interest, dividends, rents and royalties. Capital gains are treated separately for tax purposes. Dividends received by an individual from a taxable Canadian corporation are subject to a 33-1/3 percent "gross-up" (i.e. 133-1/3 percent of the dividend received is included in income) and receive a 22.22 percent dividend tax credit. This dividend gross-up and tax credit system provides partial recognition for income taxes paid at the corporate level and also provides an incentive for individuals to invest in Canadian corporations. Under the tax reform proposals, the dividend gross-up will be reduced to 25 percent and the dividend tax credit will be reduced to 16-2/3 percent. These lower rates reflect the lower corporate income tax rates for small businesses.

### 5.1.4 Capital Gains

Currently, one-half of capital gains must be included in income for tax purposes. One-half of capital losses may be offset against capital gains realized in the year and against \$2,000 of other income. Unused capital losses can be carried back three years and forward indefinitely, but can only be deducted from taxable capital gains in the carry-over period. The capital gain on an individual's principal residence is exempt from taxation. In addition, a \$500,000 lifetime capital gains exemption was introduced in 1985, to be phased in over five years. In 1987, the limit on this exemption is \$100,000 of cumulative capital gains on all assets, except for gains on qualified farms which are eligible for the full \$500,000 exemption immediately.

The tax reform proposals will increase the inclusion rate for taxable capital gains from the current one half to 66-2/3 percent in 1988 and 75 percent in 1990. The cumulative lifetime capital gains exemption will remain, but will be capped at the 1987 limit of \$100,000 for all assets except farms and shares of small businesses. For qualified farms and shares of small Canadian-controlled private corporations, the limit will be \$500,000. In addition, new rules will ensure that individuals will be able to claim a capital gains exemption only to the extent that the gains exceed the amount of cumulative investment losses claimed by the individual (e.g. resulting from interest expenses on money borrowed to buy assets).

#### 5.1.5 Income from Other Sources

Income from other sources also subject to tax includes pension benefits, retiring allowances, unemployment insurance benefits and alimony or child support payments.

#### 5.2 Payment of Income Tax

For employees, both federal and provincial income tax on salaries and wages are deducted by the employer at source. For self-employed individuals or those who earn substantial amounts of income from sources other than employment, the individual is required to make quarterly installments during the year.

A personal income tax return must be filed by individuals on or before April 30 for the previous calendar year. If the income tax paid through source deductions or quarterly installments is less than the total amount of tax owing for the year, the balance is due on April 30. Similarly, if income tax withheld at source or paid by installments exceeds the total amount owing for the year, the individual is entitled to a refund.

#### 5.3 Deductions from Income

There are a number of deductions and exemptions available to an individual which reduce taxable income.



TABLE 8  
DEDUCTIONS FROM INCOME

<u>Personal Exemptions</u>	<u>Amount in 1987</u>
Basic	\$4,220
Married	3,700
Dependent child under age 18	560
Dependent child age 18 and over	1,200
Age (65 or over)	2,640
Blind or disabled	2,890
 <u>Other Deductions</u>	
Employment expenses (up to)	\$ 500
Child care expenses (up to)	2,000 per child and 8,000 per family
Alimony and child support payments	
Union or professional dues	
Medical expenses (in excess of 3% of net income)	
Charitable donations (up to 20% of net income)	
Canada/Quebec Pension premiums	
Unemployment Insurance premiums	
Interest, dividends, capital gains (up to)	1,000
Pension income (up to)	1,000
Contributions to a Registered Retirement Savings Plan (up to a maximum of)	7,500
Contributions to a Registered Retirement Pension Plan (up to a maximum of)	7,000

The tax reform proposals call for the conversion of most deductions and exemptions to tax credits. For example, all the personal exemptions will become credits beginning in 1988. While the value of an exemption or deduction varies with the marginal tax rate of the individual, the value of a tax credit is the same, regardless of the individual's tax bracket. This is because a credit is deducted from tax payable, rather than from income, as in the case of a deduction or exemption.

#### 5.4 Rates of Tax

Currently, federal rates of personal income tax range from six percent on taxable income of \$1,318 or less, to 34 percent on taxable income of \$63,347 or more. There is also a three percent surtax on federal tax payable. In addition to the dividend tax credit (Section 5.1.3), there are a number of federal tax credits, including a tax credit for donations to a political party, a refundable tax credit, for dependent children in lower-income families, and a refundable tax credit for low-income individuals and families as a partial offset for federal sales tax paid.



Provincial income tax is calculated as a percent of federal tax in all provinces except Quebec, which levies its own income tax (Quebec income tax rates for individuals range from 13 percent to 28 percent). In the remaining nine provinces and the two territories, personal income tax rates range from 43 percent to 60 percent of federal tax, with an average rate of approximately 55 percent of federal tax. The top marginal income tax rate for individuals is thus in the range of 49 percent to 54 percent, depending on the province or territory of residence. Various provinces also levy surtaxes or provide provincial tax credits (e.g. for property or sales taxes paid by low income taxpayers).

Under the tax reform proposals, the number of federal income tax brackets will be reduced from the existing ten to three, and the tax rates will also be significantly reduced.

### 5.5 Summary of Tax Reform Proposals

The thrust of the tax reform proposals is to lower personal income tax rates and to broaden the tax base by eliminating special deductions and tax incentives. While these changes are still proposals, the government intends to pass the necessary by the end of 1987. Most of the tax reform measures will be effective January 1, 1988, although there is a phase-in period for some.

The number of federal tax brackets will be reduced from ten to three, and the rates will be reduced significantly. The proposed income tax brackets for 1988 and subsequent years are as follows:

<u>Taxable Income</u>	<u>Federal Marginal Tax Rate</u> (percent)
up to \$27,500	17
\$27,501 - \$55,000	26
\$55,001 and over	29

In addition, most exemptions and deductions will be converted to tax credits. The major tax credits proposed are shown in Table 9.

TABLE 9  
MAJOR TAX CREDITS PROPOSED UNDER TAX REFORM

<u>Personal Credits</u>	<u>Federal Tax Credit</u>
Basic	\$1,020
Married	850
Dependent child under 18	65
Age (over 65)	550
Blind or disabled	550
<u>Other Credits</u>	
Pension income	17 percent of pension income, to maximum of \$170
Medical expenses	17 percent of expenses in excess of 3 percent of net income
Charitable donations	17 percent of first \$250 and 29% of remaining donations
Canada Pension Plan and Unemployment Insurance premiums	17 percent of premiums

A number of deductions or special incentives will also be eliminated or restricted as follows: the \$1,000 deduction for interest, dividends or capital gains will be eliminated; the \$500 employment expense deduction will be eliminated; restrictions will be placed on the deduction allowed for automobiles and home offices used for business purposes; and only 80 percent of business meals and entertainment expenses will be deductible.

The inclusion rate for taxable capital gains will be increased from the current rate of one-half to 66-2/3 percent in 1988 and to 75 percent in 1990. The lifetime exemption for capital gains will be capped at the current \$100,000 limit, except for farms and shares of small businesses (i.e. Canadian-controlled private corporations), both of which will be eligible for a \$500,000 exemption. The gross-up rate for dividends received from taxable Canadian corporations will be reduced from 33-1/3 percent to 25 percent, and the dividend tax credit rate will be reduced from 22.22 percent to 16-2/3 percent.

## 6 FEDERAL SALES AND EXCISE TAXES

The federal government levies a sales tax on most manufactured goods and some services, as well as excise duties and taxes on a number of specific goods and services.

### 6.1 Federal Sales Tax

The federal sales tax is levied on the domestic manufacturer's sale price of goods produced and sold in Canada and on the duty-paid value of manufactured goods imported into Canada. The rate of tax is eight percent for construction materials, cable and pay television services, 15 percent for alcoholic beverages and tobacco products, and 12 percent for all other taxable goods. Food and exports are exempt from the sales tax. As a transitional measure under the tax reform proposals, the federal sales tax will be extended to certain telecommunications services. Effective January 1, 1988, a 10 percent sales tax will be levied on telephone and telex services (local residential telephone charges will be exempt), and the current eight percent sales tax on cable and pay television will be increased to 10 percent.

### 6.2 Excise Duties and Taxes

The federal government also levies excise duties and taxes on a number of specific goods and services including: gasoline, aviation gasoline and diesel fuel; beer, spirits and wine; cigarettes and tobacco; and jewellery. Excise duties and taxes are levied as either a specific amount per item or as a percent of value.

### 6.3 Summary of Tax Reform Proposals

In the White Paper on Tax Reform, the government proposes to replace the existing federal sales with a new broad-based multi-stage sales tax as the second stage of tax reform. The new tax would be levied on goods and services and would replace the current sales tax and would permit the government to remove the existing three percent surtax on personal and corporate income tax. Although three options for the new tax are presented in the White Paper, all three are multi-stage sales taxes.

A multi-stage sales tax would be levied on and collected from businesses in stages, as goods and services move from producers to processors, wholesalers, retailers and finally to consumers. Under this sales tax system, businesses would charge tax on their sales and claim a credit for any tax paid on their purchases. In its simplest form, the tax would be calculated by taking taxable sales made by a business during a given period, multiplying them by the tax rate and then subtracting any tax paid on business purchases. In essence, this system is a form of value-added tax.

A multi-stage sales tax has a number of advantages over the present federal sales tax. A multi-stage tax is neutral because the tax is a uniform percentage of the final sale price of goods and services. In addition, a multi-stage tax completely removes the tax on business inputs. Finally a multi-stage tax has no bias favouring imports or disadvantaging exports.

The three options for a new multi-stage sales tax presented in the White Paper are as follows:

National Sales Tax Under this option, a combined federal and provincial sales tax rate would be levied on a common tax base. The federal tax rate would be uniform across the country, but the provincial rates would be set by each province separately. To simplify administration, the national sales tax would apply on a common tax base in all participating provinces.

Federal Goods and Services Tax Under this option, a federal multi-stage sales tax would be levied on virtually all goods and services sold in Canada. The tax rate would be uniform for all taxable goods and services, and the tax base would be comprehensive, with few exceptions.

Federal Value-Added Tax This option is similar to the federal goods and services tax, but it would provide more flexibility to permit exemptions for certain goods or services. This tax would be similar to the European value-added taxes.

Along with the new multi-stage sales tax, the government proposes to introduce an enriched income tax credit for individuals and families with low incomes. The purpose of this credit is to offset the impact of the new sales tax for low income Canadians, especially the sales tax paid on necessities such as food and clothing. The amount of the credit will depend on the option chosen, and, in particular, on whether such goods as food are exempt.

The federal government has not set a date for the implementation of the stage two sales tax reform; consultations with the provincial governments on the national sales tax option have already started, and public hearings are scheduled for the fall of 1987.

## 7 PROVINCIAL RETAIL SALES TAX

Retail sales tax is levied by nine of the 10 provinces (Alberta does not levy a sales tax). This sales tax is levied at the retail level on most goods and selected services sold in the particular province. Certain essential items such as food and children's clothing are generally exempt from sales tax. Retailers must maintain records of their taxable and non-taxable sales, and are required to act as the agent for the provincial government in collecting the sales tax. The current provincial sales tax rates (as of July 1, 1987) are shown in Table 10.

TABLE 10  
PROVINCIAL RETAIL SALES TAX RATES  
(as of July 1, 1987)

	<u>Retail Sales Tax Rate</u> (percent)
Newfoundland	12
Prince Edward Island	10
Nova Scotia	10
New Brunswick	10
Quebec	9
Ontario	7
Manitoba	7
Saskatchewan	7
Alberta	no sales tax
British Columbia <sup>1</sup>	6

<sup>1</sup> British Columbia has announced that it will reduce the sales tax rate to 5 percent some time later in the 1987-88 fiscal year.



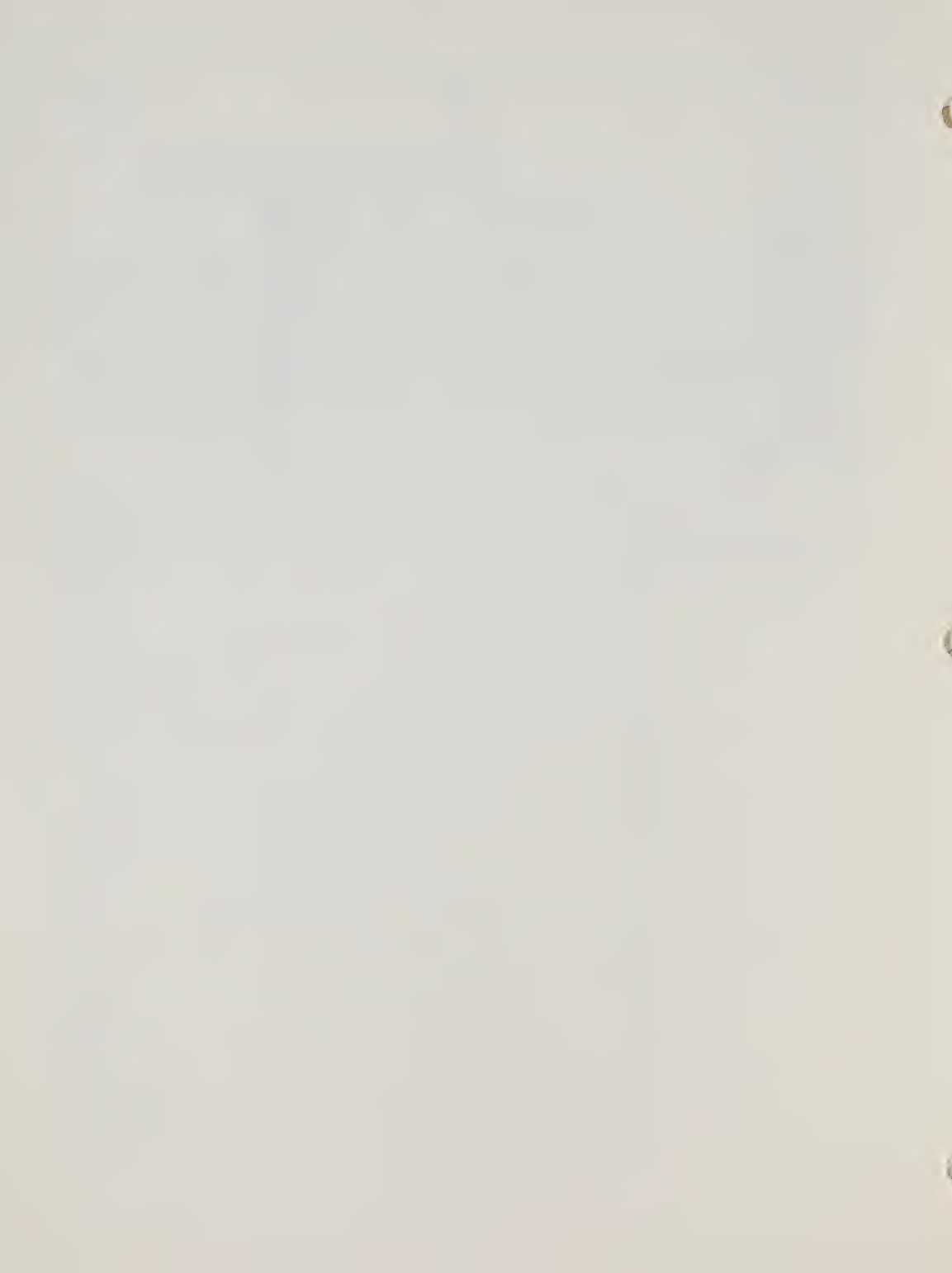
APPENDIX IINTERNATIONAL TAX AGREEMENTS

Canada has signed tax agreements with the countries shown below. The date refers to the date that the most recently concluded agreement was signed. After representatives of both countries have signed the agreement, it must be ratified by the governments of the countries, a process which can take several years. In order to reflect the changes in tax legislation that occur over time, revised tax agreements are negotiated periodically. For example, a new agreement between Canada and Japan was signed in 1986 to replace the 1964 agreement, but this revised agreement will not come into force until it has been ratified by both countries. The tax agreement with South Africa was abrogated in 1985.

<u>Country</u>	<u>Year Agreement was Signed<sup>1</sup></u>
Australia	1980
Austria	1976
Bangladesh	1982
Barbados	1980
Belgium	1975
Brazil	1984
China (People's Republic of)	1986
Cyprus (Republic of)	1984
Denmark	1955
Dominican Republic	1976
Egypt (Arab Republic of)	1983
Finland	1959
France	1975
Germany (Federal Republic of)	1981
Guyana	1985
India	1985
Indonesia	1979
Ireland	1966
Israel	1975
Italy	1977
Ivory Coast	1983
Jamaica	1978
Japan	1964
Kenya	1983
Korea	1978
Malaysia	1976
Malta	1986
Morocco	1975
Netherlands	1957
New Zealand	1980
Norway	1966

<u>Country</u>	<u>Year Agreement was Signed</u>
Pakistan	1966
Philippines	1976
Romania	1978
Singapore	1976
Spain	1976
Sri Lanka	1982
Sweden	1983
Switzerland	1976
Thailand (Kingdom of)	1984
Trinidad and Tobago	1966
Tunisia	1982
Union of Soviet Socialist Republics	1985
United Kingdom	1978
United States	1984

- <sup>1</sup> Tax agreements have been signed, but not ratified, with Cameroon, Liberia and the Republic of Zambia.









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## INCENTIVE PROGRAMS

### I OBJECTIVES OF GOVERNMENT INCENTIVE POLICIES

As in all countries around the world, the various levels of government in Canada offer incentive programs to investors who are starting or expanding a business. The basic objective of these programs is one of improving the economic health of the enterprise concerned. For the Canadian federal government, specific objectives include the following:

- to promote better distribution of economic activity or employment across the country;
- to increase productivity and efficiency;
- to increase national defence capability;
- to increase the mobility of the work force;
- to promote international trade; and
- to encourage industrial innovation, development and introduction of new products and processes.

Virtually all federal and provincial assistance programs are designed as true incentives or levers, and are available only if a viable, promising project/venture would not proceed otherwise.

The federal government's incentives can be classified into two general categories: general incentive programs and incentives under the Income Tax Act. The latter are statutory in nature and are non-discretionary. Any business which fulfils the terms of the applicable income tax regulations is eligible for these incentives and accordingly pays a reduced income tax. The general incentives, on the other hand, are discretionary in that a company is not automatically entitled to them; these incentives are negotiated with the government department which administers the program.

Section 3.1 summarizes a number of major incentives available from the federal government. As governments respond to changing conditions, modifications and changes are made to the available programs. Accordingly, investors are encouraged to discuss projects for which assistance is needed with officials in the particular department or agency administering the program. Contact addresses are provided for each program.

Canada's provincial and territorial governments offer their own incentive programs, which often complement those of the federal government. Many of these are listed by jurisdiction in Section 4.

In addition to the federal and provincial programs and services, there are numerous municipal incentives available to businesses. It would be useful to contact the municipality directly to determine whether assistance is available for a project.

## 2 TYPES OF INCENTIVE PROGRAMS

### 2.1 General Incentives

Incentive and assistance programs are structured to address the needs of businesses at particular stages of activity. The major areas towards which programs are oriented are summarized below.

#### 2.1.1 Financing

Recognizing the importance to businesses of having adequate financing available at reasonable cost, each of the three levels of government has provided a wide range of programs and tax measures to give qualified applicants access to necessary funds. The main types of financial assistance offered by the federal and provincial governments are loan guarantees and insurance, grants, and tax advantages.

#### 2.1.2 Exports

The federal and provincial governments have many programs to assist businesses in developing domestic and export markets for their programs and services. In particular, the federal departments of External Affairs, Regional Industrial Expansion, and Agriculture have a number of programs which assist a business in marketing activities. The provinces also have marketing and business development ministries or agencies.

#### 2.1.3 Research and Development

Research and development is vital to Canada's economic development and to maintaining a business edge in the marketplace. R&D incentive programs in Canada are either income tax related (that is, they reduce or defer the amount of income taxes otherwise payable) or take the form of specific grants covering a portion of research costs incurred. They are all designed to increase the productivity of Canadian industry and to assist in the creation of new technology by encouraging businesses to undertake or increase the level of research and development activities. Incentives are generally not restricted to specific types of projects; rather, the business is left to determine what project it wishes to pursue. Furthermore, incentives are available not only to large corporations with full-time staff or scientists and expensive and sophisticated research facilities, but also to small and medium-sized businesses. In addition, qualifying businesses with sound innovative projects but without in-house research facilities can contract out the project to universities, research institutes, or other outside organizations; the costs so incurred are generally eligible for grants in the same manner as if the business had carried out the project itself.

Federal government departments offering R&D assistance are: Energy, Mines and Resources; Fisheries and Oceans; Revenue Canada; and Regional Industrial Expansion. Again, provincial governments also provide incentives to conduct R&D in Canada.

2.1.4 Incentives for Technological Development

The Canadian government provides substantial support for technological development through a variety of mechanisms - ranging from tax incentives, grants, loans, contracts for goods and services, infrastructure support, and skills training related to advanced technology industries.

2.1.5 Business Expansion

To modernize a business or to expand or restructure the scope of operations, there are a number of federal and provincial programs that can be of assistance. Typically, assistance is in the form of loan guarantees and/or other financial support for high-risk modernizing and restructuring programs.

2.1.6 Personnel

A successful business requires workers with the necessary skills. A wide range of federal and provincial services and programs are provided to assist employers to obtain and train qualified employees. Assistance for occupational training, support for the retraining of workers displaced by technological change, assistance and information in recruiting, employee relations, and management development, are provided by Labour Canada, the Canadian Employment and Immigration Commission, and other government agencies. Provincial programs augment those offered by the federal government.

2.1.7 Incentives For Investment in Cape Breton

2.1.7.1 Financial Assistance

Under the Industrial and Regional Development Program (IRDP) administered in the Atlantic provinces by the Atlantic Canada Opportunities Agency,<sup>1</sup> an eligible manufacturing or processing company in Cape Breton may apply for assistance to finance buildings, machinery and equipment for up to a basic maximum of 30 percent of cost for new projects, or 25 percent for business expansions. Individuals, associations, partnerships, co-operatives, corporations and non-profit organizations are eligible, depending on the nature of the project.

Assistance for eligible projects covers six elements of a product's (or company's) cycle:

- Innovation: consultant studies; development of new products or processes; technological capability; demonstration and design.
- Establishment: consultant studies; plant establishment.

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<sup>1</sup> Up to a maximum of \$2 million. Any assistance over \$2 million is administered by the Department of Regional Economic Expansion.



- Modernization/Expansion: consultant studies; modernization; expansion; adaptation of microelectronic/ electronic technology.
- Marketing: consultant studies; collection/ dissemination of tourism information; special events; market research.

In addition, "topping-up" assistance, introduced on July 17, 1985, can raise this proportion up to 60 percent in both instances.

#### 2.1.7.2 Tax Initiatives

The May 1985 budget provided a new tax initiative to further encourage investment in Cape Breton. This tax initiative formed a key part of the general adjustment program for this area. Projects approved by the minister responsible for the Atlantic Canada Opportunities Agency will be offered a 60 percent tax credit for the acquisition of new eligible assets to be used on Cape Breton. This special tax credit can be carried back three years and carried forward for a 10-year period to offset federal income tax otherwise payable. In 1989, this tax credit will be reduced to 45 percent.

As a result of this initiative, many projects in Cape Breton may pay no federal income tax for 10 to 15 years.

The 60 percent credit applies to manufacturing and processing, farming, logging, and other resource-related activities. In recognition of the special situation in Cape Breton and to enhance the job-creation potential of this measure, additional activities will be eligible for approval. These will include certain tourism facilities, the technical services-to-business sector, and the provision of central facilities for receiving, storage and distribution.

The February 1986 budget increased the refundable portion of unused Cape Breton investment tax credits earned in a year from 20 percent to 40 percent for large businesses. Small businesses already received a 40 percent refund. This increase benefits taxpayers who cannot make immediate use of the credit to reduce tax. All businesses, regardless of size, receive 40 percent of any unused tax credit as a refund in the year the credit is earned. The remaining portion of the credit can be carried forward for up to 10 years. This change applies to eligible property acquired after May 23, 1985 and before 1989. The June 1987 White Paper on Tax Reform proposes that refundability of unused income tax credits earned by large firms will generally be ended for property acquired or expenditures made after 1987, one year earlier than previously scheduled. Refundability of the tax credit for high-cost exploration will end for large firms for any taxation year starting after 1987.

Property eligible for the regional investment tax credit such as buildings, machinery and equipment in these sectors are also eligible for this credit as prescribed by Regulations to the Income Tax Act. Expenditures related to certain movable equipment, such as automobiles, trucks, vessels and other transportation equipment do not qualify.

Total capital expenditures projected in respect of depreciable property must be at least \$25,000 as of February 26, 1986 (down from \$50,000) for the project to qualify for the Cape Breton credit. The project requires the approval of the minister responsible for the Atlantic Canada Opportunities Agency, who will certify that the eligible expenditures are related to the approved project. For the project to qualify, approval will be required before July 1988, with expenditures made after May 23, 1985 and before 1993. The government is prepared to deal immediately with approval of individual projects on the basis of this proposal to ensure that they can proceed in an expeditious manner.

An advisory committee, composed of private sector representatives, was created to provide counsel on economic development measures for Cape Breton. This advisory committee has been asked to review the effectiveness of the measure and its scope, and to advise on the possible inclusion of other activities beyond those listed above.

The combined effect of the IRDP, the topping-up program, and the tax initiative could reduce the actual dollar outlay of an eligible company by up to 84 percent of the planned capital investment.

#### 2.1.7.3 Other Assistance

Other forms of assistance are also available for investment in Cape Breton. See programs under the Atlantic Canada Opportunities Agency.

#### 2.1.7.4 International Trade Zone

The first international trade zone in Canada was established at the Sydport Industrial Park in Cape Breton. This allows companies to import materials free of duty, to manufacture or assemble products in Cape Breton, and to export these products to other countries such as the US. This allows companies to manufacture in Canada at lower cost for export and provides an attractive ingress to the lucrative US market.

These government initiatives make Cape Breton one of the most attractive places to invest in all of North America, potentially reducing actual capital outlays to as little as 16 cents for each dollar of intended investment.

#### 2.2 Incentives under the Income Tax Act

Incentives under the Income Tax Act include: Business Investment Tax Credit; Small Business Deductions; Capital Cost Allowance (Depreciation); Foreign Tax Credits; Manufacturing and Processing Corporation Deductions; Special Tax Credits and Deductions; and Research and Development Deductions and Tax Credits.

See "Taxation and Tax Incentives" for details on these and other measures.

3 FEDERAL INCENTIVE PROGRAMS BY BUSINESS ACTIVITY

3.1 Summary of Programs

Federal government incentive programs are summarized below according to the type of business activity, listing the program name and incentives available.

Sections 3.2 through 3.13.4 list individual programs according to the specific sectors they address.

All program details are current as of June 1987.

## FEDERAL INCENTIVE PROGRAMS

### Type of Business Activity

#### 3.1.1 Capital Projects

Studies to determine project feasibility, carry out eligible market research and other establishment studies; plant establishment. Also available for modernization or expansion.

Establishment of manufacturers and processors in Atlantic and Gaspé regions. Program also complements existing programs in related service sectors, tourism and primary industries.

Establishment of qualified suppliers of defence or defence-related products.

Acquisition of advanced production equipment to modernize or upgrade manufacturing capability in Canada for defence and defence-related products.

Marketing feasibility studies on domestic and export market needs of Canadian defence-related products.

Importing advanced equipment not available in Canada.

Purchase of machinery and equipment for earth-moving, manufacturing and processing, pollution control and energy efficiency uses.

### Program

IRDP-Industrial Regional Development Program

Atlantic Enterprise

DIPP-Defence Industry Productivity Program

DIPP-Defence Industry Productivity Program

DIPP-Defence Industry Productivity Program

MACH-Machinery Program

Accelerated capital cost write-off

### Incentives Available

Contributes between 33 and 50 percent of costs for studies and between 17.5 and 30 percent for plant establishment. Also provides between 30 and 37.5 percent funding for the installation of microelectronics in production processes and products.

Loan guarantees set at 85 percent of principal amount of loan; interest rate buy-downs of up to six percent.

Contributes toward the eligible costs of establishing qualified suppliers operating in Canada of defence or defence-related products.

Contributes toward the eligible costs of acquisition.

Contributes toward eligible costs of market feasibility study.

Remission of certain import tariffs to reduce acquisition cost.

Deduction from taxable income of cost of equipment at accelerated rate of up to 50 percent per year. This write-off may be eliminated at the beginning of 1988.

<u>Type of Business Activity</u>	<u>Program</u>	<u>Incentives Available</u>
Purchase of assets to be used in manufacturing and processing, or of prescribed transportation equipment, with special emphasis on assets to be used in designated areas.	Investment Tax Credit	Tax credit of up to 60 percent of qualifying capital expenditures, depending on geographic area and purpose. Rates of seven and five percent to be phased out by 1989. Proposal for other rates to be reduced.
Purchase of assets to be used in expansion or modernization of existing facilities or the establishment of new facilities in designated areas.	Special Investment Tax	Tax credit of up to 40 percent of qualifying capital expenditures. Proposal to reduce rates in 1989 to three percent.
Tax measure designed to reduce borrowing costs for small businesses and unincorporated businesses experiencing financial difficulties.	Small Business Board	Expires at end of 1987.
Term loans from chartered banks and other designated lenders.	Small Business Loans	Business improvement loans. Loss-sharing arrangements between lenders and federal government.
Depreciation of capital goods.	Capital Cost Allowance	According to class, assets are currently depreciated at an annual rate of between four and 100 percent. Common items such as trucks, computers and film are currently depreciated at 30 percent, while buildings are depreciated at five percent per year. CCA rates may be reduced.
3.1.2 <u>Product and Productivity Improvement</u>	IRDP-Industrial and Regional Development Program	Contributes up to 50 percent of eligible costs.
Innovation projects for studies (e.g. technology acquisition), developing new products or processes, developing technological capability, and product design.		



<u>Type of Business Activity</u>	<u>Program</u>	<u>Incentives Available</u>
<u>3.1.3 Personnel Training and Development</u>  Employee development and retraining.  Manpower planning and worker productivity improvement.	Canadian Job Strategy  Industrial Adjustment Service	Reimburses part of employee's wages for approved programs, e.g. on-the-job training for new employees, retraining, etc.  Reimburses part of costs of moving redundant employees to other jobs.
<u>3.1.4 Technical Research and Development</u>  Applied research in approved industrial research projects which are high-risk, expensive or long-range but, have large potential benefits; use of external R&D facilities by small companies with less than 200 employees to solve specific technical problems.	IRDP-Industrial and Regional Development Program	Contributes toward the payment of salaries of scientists, engineers, technologists and technicians.
Research and development.	UPP- Unsolicited Proposals Program	Provides bridge funding for R&D in areas of scientific research of specific interest to the government. (See chapter on Business Operations)
Research and development undertaken by any company operating in Canada in the field of biomass development.	Bio-energy Development Program	Contributes toward R&D costs for eligible companies.
Small and medium-sized manufacturing firms undertaking industrial research and development.	IRAP-Industrial Research Assistance Program	Provides salary support for eligible companies.
For non-federal government, non-profit technology institutions involved in improving Canadian productivity and competitiveness.	Technology Outreach Program - TOP	Start-up and sustaining assistance to institutions responding to national diffusion priorities.

## Type of Business Activity

## Incentives Available

Participation in EUREKA high-tech projects.

Assistance to Canadian firms.

Research and development in solar, geothermal, wind and small-scale hydroelectric energy.

Financial assistance.

Research and development in energy conversion being undertaken by companies incorporated in Canada, groupings of companies and individuals, trade and resource organizations, and consulting firms.

Provides funds for eligible companies.

Development of new and improved techniques to increase efficiency of energy use.

Cost-sharing of part of project's labour, materials and service costs.

Research and development being undertaken by company operating in Canada for projects relating to the defence industry.

Contributions toward the eligible costs of establishing qualified Canadian suppliers of defence or defence-related products.

Development and demonstration of technology for resource conservation.

Cost sharing of part of total estimated costs of an approved project. Special conservation write-offs are offered for businesses using wind energy equipment.

Projects for industrial exploitation of available technology.

Contributes towards project costs.

Cooperation between industry and universities on R&D of specific interest to industry.

NSERC provides funding to the university, co-operating firm contributes facilities and/or research staff for additional University-Industry funding. (See chapter on R&D).

## Program

Technology Opportunities in Europe Program - TOEP

Solar Energy Development Program

IERD-Industry Energy Research and Development Program

IERD-Industrial Energy R&D Program

DIPP-Defence Industry Program

DRECT-Development of Resource Energy Technology

PILP-Program for Industry/Laboratory Projects

NSERC-Natural Sciences and Engineering Research Council R&D Program

<u>Type of Business Activity</u>	<u>Program</u>	<u>Incentives Available</u>
3.1.4.1 <u>Technical Research and Development - Tax Incentives</u>		
Research and development activity.	Income Tax Incentive	Current and capital expenditures on R&D are 100 percent deductible; buildings other than special types (i.e. wind tunnels, etc.) are covered under capital cost allowance.
Research and development activity.	Investment Tax Credit	20 percent to 35 percent tax credit for expenditures on scientific research, depending on geographic area.
3.1.5 <u>Development of Global Markets</u>		
Export sales.	EDC-Export Development Corporation	Export credit insurance; long-term financing; surety insurance for performance guarantee; foreign investment guarantee for loss due to expropriation, war, etc.; discounting of foreign receivables. Available to small as well as large exporters.
Sales to non-Canadian government purchasing agencies.	CCC-Canadian Corporation	Acts as prime contractor with client country; subcontracts with Commercial Canadian firms; assists with prompt payment.
Export sales, investing in Canada, joint ventures, technology transfer, licensing.	Investment Canada, External Affairs, embassies, consulates	A wide range of services including market access information and investment information.
Developing new export markets.	PEMD-Program for Export Market Development	Contributes to a wide range of activities, including: specific project bidding; market identification; participation in trade fairs; services for incoming buyers, etc.

<u>Type of Business Activity</u>	<u>Program</u>	<u>Incentives Available</u>
3.1.6 <u>Federal Tax Incentives - Not listed elsewhere</u>		
	Foreign Tax Credit	Resident corporation in Canada is entitled to credit against income taxfully paid to foreign governments. The credit is limited to the amount of Canadian tax on the foreign business income before the credit.
Manufacturing and processing activities.	Manufacturing and Processing Tax Credit	A six percent deduction (five percent for small business deductions) on basic federal tax.
Mining, petroleum and logging operations.	Special Tax Credit and Deductions	Tax credits made available for all three types of activities.
New mining operations.	Mining Industry Tax Incentives	Capital Cost Allowance for new mines allowing all capital costs incurred from a new mine to be written off either against income from the mines or at 30 percent per year against all income of the corporation, whichever is greater.
Exploration activity.	ETC - Exploration Tax Credit	Qualifying Canadian exploration expenses incurred anywhere in Canada between December 1, 1985 and January 1, 1991.

## 3.2 Agriculture

Agriculture Canada, through its network of branches, divisions and special administrations, provides farmers and others working in agriculture with a large number of services including advance payments, subsidies, adjustment support programs, employment programs, credit, crop protection and development, farm management, research, etc.

### 3.2.1 Advance Payments for Crops Act

To facilitate advance payments for crops.

Eligibility: Canadian producer organizations.

Contact: Policy Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-5880

### 3.2.2 Agricultural Fairs and Exhibitions Assistance

The federal government assists agricultural fairs and exhibitions in order to encourage livestock improvement and help the fairs and exhibitions maintain or improve their facilities.

Eligibility: Agricultural exhibition associations.

Contact: Special Programs Division, Agricultural Development Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-9554

### 3.2.3 Agricultural Products Co-operative Marketing Agreements

By agreement under the Agricultural Products Co-operative Marketing Act between the Minister of Agriculture and co-operative groups, the federal government guarantees bank loans for initial payments and operating costs to primary producers of agricultural products.

Eligibility: Any group of producers organized in a co-operative fashion and having a pooling system in place.

Contact: Legislated Marketing Program Division, Policy Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-5880

### 3.2.4 Agricultural Stabilization Board

The federal government assists producers to stabilize their incomes by providing deficiency payments when market prices fall below predetermined levels.

Eligibility: When a deficiency payment is announced, producers must file application forms documenting their production. Payments are made directly to individuals.

Contact: Policy Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-5880



### 3.2.5 Animal Disease Eradication

Agriculture Canada has programs to control and/or eradicate certain diseases. Under these programs, compensation is paid to herd owners for animals slaughtered in order to control disease.

Eligibility: Owners of animals slaughtered due to disease.

Contact: Animal Health Division, Health of Animals Directorate, Food Production and Inspection Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-5433

### 3.2.6 Crop Insurance Act

The Farm Income Services Branch administers various programs concerned with providing income stability for farmers.

Contact: Provincial Crop Insurance Agencies, or Policy Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-5880

### 3.2.7 Farm Credit Corporation (FCC), Farm Credit Act

To provide long-term mortgage credit to assist farmers and those wishing to become farmers to purchase, develop, and maintain sound farm businesses.

Eligibility: Individual farmers, corporations, or co-operative farm associations. Applicants must be of legal age with Canadian citizenship or permanent residency. Repayment ability and need for loan must be demonstrated. Regional Farm Credit Corporation Head Office (613) 996-6606.

Contact: Telephone the Regional Farm Credit Corporation Office of your province or region and ask for the credit advisor serving your area.

### 3.2.8 Farm Syndicates Credit Act

To provide the financial means for farmers to act co-operatively in overcoming the high cost of individual ownership of machinery, buildings, and installed equipment that can be shared to mutual advantage.

Eligibility: A group of three or more farmers, the majority of whom have farming as their principal occupation, who have signed an agreement acceptable to the Farm Credit Corporation.

Contact: Consult a credit advisor of the Farm Credit Corporation in your area.

### 3.2.9 Fruit and Vegetable Storage Construction Financial Assistance Program

To extend the marketing period for domestic produce and to reduce reliance on imported fruits and vegetables by encouraging an increase in storage facilities.

Eligibility: Assistance is available to groups of three or more primary producers such as producer associations, co-operatives, syndicates, or marketing boards engaged in the production, storing, and marketing of fruit and vegetables for fresh market or for processing.

Contact: Special Program Development and Co-ordination Division, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-9554

### 3.2.10 New Crop Development Fund (NCDF)

The NCDF assists projects that demonstrate the commercial potential of new crops, varieties, technologies, and/or production practices for a region. The fund's purpose is to encourage the growth and efficiency of a diversified crops sector in Canadian agriculture.

Eligibility: Commercial organizations, industrial or producer associations, universities or other non-profit organizations, and provincial or territorial agencies. Applicants must have adequate financial resources and the necessary physical, technical, and managerial capabilities.

Contact: Local Agriculture Canada or New Crop Development Fund Secretariat, Agricultural Development Branch, Agriculture Canada, Sir John Carling Building, Ottawa, Ontario, K1A 0C5 (613) 995-9554

### 3.2.11 Western Grain Stabilization Act

The Western Grain Stabilization Act protects producers against extreme fluctuations in returns from year to year.

Eligibility: Grain producers in western Canada.

Contact: Western Grain Stabilization Administration Farm Income Services Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5, or: Western Grain Stabilization Administration, 303 Main Street, Room 935, Winnipeg, Manitoba, R3C 3H5 (204) 949-3384

### 3.2.12 Dairy Policy

The policy gives efficient producers of milk and cream the opportunity to get a fair return for their labour and investment and to supply consumers with a continuous and adequate supply of high-quality dairy products.

Contact: Information Services, Canadian Dairy Commission, 2191 Riverside Drive, Ottawa, Ontario, K1A 0Z2 (613) 998-9490

### 3.2.13 Farm Improvement Loans

These encourage designated commercial lending institutions to make short and intermediate-term loans to farmers at reasonable interest rates.

Contact: Policy Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-5880

3.2.14 Prairie Grain Advance Payments Act

The program improves prairie grain farmers' cash flow during periods when they must hold their inventory on the farm.

Within the Canadian Wheat Board designated areas, eligible producers of wheat, oats and barley receive an interest-free cash advance until delivery quotas are open and marketing opportunities improve. The act is being amended to make the program more responsive to farmers' needs.

Contact: Policy Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-5880

3.2.15 Feed Freight Assistance

This assistance helps livestock breeders in feed-deficit areas of the country.

Feed freight assistance partly offsets the cost of transporting Canadian feed grain from surplus areas to deficient areas of the country. Payment is also made on local grain sold commercially in the feed-deficit areas.

Contact: Livestock Feed Board of Canada, 5180 Queen Mary Road, Room 400, PO Box 177, Snowdon Station, Montreal, Quebec, H3X 3T4 (514) 283-7505

3.2.16 Canadian Rural Transition Program

The program helps farm families who stop farming because of financial difficulties and wish to start a new non-farming career.

The program provides for a transition grant (up to \$1,600) and additional financial assistance for a further five months. It also provides assistance for training, transportation to seek employment, relocation and starting a new business, plus wage reimbursement for employers. Job and personal counselling are also available.

Contact: Agriculture Development Branch, Agriculture Canada, Ottawa, Ontario, K1A 0C5 (613) 995-9554

3.3 Canadian Jobs Strategy

The Canada Employment and Immigration Commission (CEIC) is concerned with the development and utilization of Canadian workers. The department provides employment and immigration services and administers the Unemployment Insurance Act.

3.3.1 Skill Investment

The general objective of the Skill Investment program is to help workers whose jobs may be changed or eliminated due to technology or market changes. It assists businesses of less than 100 employees which must permanently lay off workers to train them; this includes management entrepreneurial training.

Contact: Any Canada Employment Centre.

3.3.2 Job Entry

This program assists persons having problems in making the transition from school or home to the labour market by providing training and work experience. Priority is accorded to youth who have not completed their secondary school education.

Contact: As above.

3.3.2.1 Job Entry/Challenge '87

This program creates employment opportunities for students, to facilitate their future entry into the labour market. Through a wage subsidy to employers, students are provided incremental career- or study-related and practical work experience during the summer months. Work orientation workshops and student business loans are available. The Federal Business Development Bank delivers the latter part of the program.

Contact: As above.

3.3.3 Job Development

The object of this program is to help the long-term unemployed and other specified individuals to participate effectively in the labour market through training and work-oriented jobs. This includes the provision of special assistance to those among this group who are employment disadvantaged or severely employment disadvantaged.

Contact: As above.

3.3.4 Skill Shortages

The Skill Shortages program assists employees to find and train skilled workers needed to enhance their competitiveness, when these skills have been designated as in shortage at the regional or national level. Assistance may involve the funding of worker mobility for those already possessing the required skills, or incremental training both on and off the job.

Contact: As above.



3.3.5 Innovations

The Innovations program stimulates and supports innovated labour market initiatives. Assistance is provided for pilot projects which will lead to the improved functioning of the labour market. Projects must demonstrate new and innovative approaches which could be applied within the labour market on a wider or longer-term basis.

Contact: As above.

3.3.6 Community Futures

The objective of the Community Futures program is to help communities in their efforts to identify, develop and undertake measures to help individuals adjust and adapt in a changing economic environment and to expand permanent employment. Eligibility is confined to non-metropolitan communities with exceptionally high unemployment or those undergoing or expecting major lay-offs in their main industries. Activities involve the assessment of economic problems and development of employment opportunities and adjustment measures.

Contact: As above.

3.3.7 Canada Employment and Immigration Commission Regional Offices

National Headquarters

Place du Portage, Phase IV,  
140 Promenade du Portage  
Ottawa, Ontario K1A 0J9  
(819) 994-4005

Quebec Region

1441 rue St-Urbain, 9th Floor  
Montreal, Quebec H2X 2M8  
(514) 283-3964

Northwest Territories Region

Scotia Centre  
5102 50th Avenue, Box 1950  
Yellowknife, Northwest Territories  
X1A 1G9 (403) 920-8412

British Columbia and Yukon Territory

Royal Centre  
1055 West Georgia Street  
Vancouver, British Columbia  
V6P 2P8 (604) 666-2282

Alberta Region

5th Floor, 9925 - 109 Street  
Edmonton, Alberta T5K 2J8  
(403) 420-2424

New Brunswick Region

975 Hanwell Road  
PO Box 2600,  
Fredericton, New Brunswick  
E3B 5V6 (506) 452-3710

Saskatchewan Region

Financial Building  
2101 Earth Street, Room 600  
Regina, Saskatchewan S4P 2H9  
(306) 780-6255

Nova Scotia Region

1888 Brunswick Street  
Halifax, Nova Scotia B3J 3E4  
(902) 426-2988



Manitoba Region  
Eaton Place, Room 710  
330 Graham Avenue  
Winnipeg, Manitoba R3C 4B9  
(204) 985-2231

Prince Edward Island Region  
85 Fitzroy Street  
PO Box 8000  
Charlottetown, Prince Edward Island  
C1A 8K1 (902) 892-0211

Ontario Region  
4900 Yonge Street, Suite 700  
Willowdale, Ontario M2N 6A8  
(416) 224-4500

Newfoundland Region  
167 Kenmount Road  
PO Box 12051  
St. John's, Newfoundland  
A1B 3Z4 (709) 772-5331

### 3.4 Consumer and Corporate Information: Metrification

The Federal Department of Consumer and Corporate Affairs is responsible for legislative and regulatory powers concerning business people, consumers, and the Canadian public at large.

#### 3.4.1 Information, Consumer and Corporate Affairs

The Field Operations Service includes regional and local offices across Canada which provide information, publications and reports based on the activities of the department. The field force includes inspectors of weights and measures, consumer products, food, etc. Consumer consulting and misleading advertising complaints are also a function of the Field Operation Service.

**Contact:** Consumer and Corporate Affairs, Place du Portage, Phase I, 50 Victoria Street, Hull, Quebec, K1A 0C9 (819) 997-2938

#### 3.4.2 Assistance Program: Workers' Metric Tools

This program provides financial help to employees who are required to provide their own metric tools to replace non-metric tools because of metric conversion in Canada.

**Eligibility:** Employees who are required to provide their own tools for employment at a work location in Canada.

**Contact:** Metric Commission, Box 4509, Ottawa, Ontario, K1S 5J2

### 3.5 Communications and Cultural Industries

The Department of Communications co-ordinates financial incentives offered to Canadian publishers, film makers and distributors to increase their presence in Canadian and foreign markets.

#### 3.5.1 Canada Council

The Canada Council promotes and fosters the arts in Canada.

Eligibility: Grants are provided to professional artists in all disciplines: arts organizations, including dance and theatre companies, orchestras and opera companies, art galleries and artist-run spaces, etc.

Contact: The Canada Council, 99 Metcalfe Street Ottawa, Ontario, K1P 5V8 (613) 237-3400. Toll free 1-800-267-8282. Lise Rochand, Monique Poudrette.

### 3.6 Exports and Marketing

The Department of External Affairs is responsible for making sure that the conduct of foreign relations serves Canadian trade objectives, that economic factors are considered in the design of foreign policy, that services are offered to Canadian exporters in an increasingly competitive international marketplace, and that policies and programs cohere in the conduct of Canada's external relations.

#### 3.6.1 Commercial Representation Abroad

The commercial representatives abroad promote Canada's export trade and protect its commercial interests in foreign countries. External Affairs' Trade Commissioners provide a most useful link between foreign buyers and Canadian exporters.

Contact: The department's commercial representatives abroad are listed in the Businessmen's Directory of Canadian Representation Abroad. For a free copy, contact your local DRIE Regional Office or Regional Trade Offices, Trade Information Centre, Department of External Affairs, Ottawa, Ontario. K1A 0G2 (613) 993-6435 or toll free 1-800-267-8376

#### 3.6.2 Cost Recoverable Technical Assistance Program (CRTA)

The purpose of CRTA is to improve Canada's performance in marketing and services abroad through the use of Canadian government experts. In doing so, it focuses on maximizing Canada's private sector involvement.

Eligibility: Commercial contracts between Canadian firms and foreign countries are negotiated and signed by Canadian private sector organizations.

Contact: Cost Recoverable Technical Assistance Unit, Export Finance Capital Projects and Trading Houses Division, Department of External Affairs, Ottawa, Ontario, K1A 0G2 (819) 995-1281

#### 3.6.3 Export Development Corporation (EDC)

ECD is a crown corporation that provides a wide range of insurance and bank guarantee services to Canadian exporters, and arranges credit for foreign buyers in order to facilitate and develop export trade.

Eligibility: EDC emphasizes the needs of the smaller exporter. There is no minimum value of export business required to qualify for support.

Contact: Firms are encouraged to consult EDC and their bankers about credit and financing considerations at the earliest possible date when developing plans.

Export Development Corporation

Head Office

151 O'Connor Street, Ottawa, Ontario  
K1P 5T9 (613) 598-2500  
Rapidfax: (613) 237-2690  
Cable: EXCREDCORP  
Telex: 053-4136  
Facsimile: (613) 237-2690

Export Development Corporation

Ontario Region

National Bank Building, Suite 810  
PO Box 810, 150 York Street  
Toronto, Ontario  
M5H 3S5 (416) 364-0135  
Telex: 06-22166  
Facsimile: (416) 862-1267

Export Development Corporation

Western Region

Suite 1030, One Bentall Centre  
505 Burrard Street  
Vancouver, British Columbia  
V7X 1M5 (604) 688-8658  
Telex: 04-54223  
Facsimile: (604) 688-3710

Export Development Corporation

Atlantic Region,

Suite 1003, Toronto-Dominion  
Bank Building  
1791 Barrington Street  
Halifax, Nova Scotia, B3J 3L1  
(902) 429-0426  
Telex: 019-21502

3.6.4 Promotional Projects Program (PPP)

To assist Canadian businesses to exploit foreign markets through participation in promotional events.

Eligibility: PPP is designed to benefit as wide a cross-section of Canadian industry as possible.

Contact: Further information may be obtained from the nearest DRIE regional office. (See Regional Trade Offices.)

3.7 Industry, Regional and Small Business Incentives

The Department of Regional Industrial Expansion (DRIE) has a strong central core in each of the manufacturing, processing, and service sectors of our economy. Its objective is to increase overall industrial, commercial, and tourism activity in all parts of Canada and, in the process, reduce economic disparity across Canada.

Programs administered by DRIE include the Defence Industry Productivity Program (DIPP); the Industrial and Regional Development Program (IRDP) (except for the Atlantic Region); the Small Business Bond; the Small Business Loans Act (SBLA); the Technology Outreach Program (TOP); and the Technology Opportunities in Europe Program (TOEP).

The Atlantic Canada Opportunities Agency (ACOA) is a new organization designed to deliver assistance to Atlantic Canada with the objective of increasing the industrial, commercial and tourism activity in the region. The agency will have a strong mandate for the co-ordination and planning of all federal activities contributing to the economic growth of the region, particularly procurement, training and skills development, job creation, technology infrastructure development, and local investment promotion.

It also will be directly responsible for federal small and medium-sized business and industrial development policy and programs in the region, working in close co-operation with provincial governments and with the private sector. Special efforts will be made to ensure Atlantic suppliers benefit fairly from federal procurement requirements.

The agency's programs are intended to complement, not duplicate, those of the provinces and local governments. It will work co-operatively with other levels of government, drawing on regional expertise wherever possible. The agency will be particularly responsible for fostering new enterprises at the local level. While its principal function will be the design and delivery of programs for small and medium-sized businesses and industries within the region, it also will be responsible for bringing a regional perspective to the design of national economic and social programs that affect Atlantic Canada.

The following responsibilities have been transferred to ACOA:

- economic development in Atlantic Canada insofar as it relates to small and medium-sized businesses and industries and other regional development programs and activities;
- co-ordinating federal activities relating to economic growth in the Atlantic region;
- the offices of the Federal Economic Development Coordinators in the Atlantic provinces, including responsibility for overseeing the ERDA process;
- most ERDA sub-agreements currently managed by DRIE;
- Enterprise Cape Breton; and
- the Atlantic Enterprise Program (except eastern Quebec) and the Atlantic Enterprise Board.

The Western Diversification Office (WDO) is a new agency created to develop and diversify the western Canadian economy, to render it less vulnerable to international economic developments and fluctuating commodity prices. It will co-ordinate federal economic activities in western Canada, operate programs to facilitate the creation of new enterprises and administer a \$1.2 billion Western Diversification Fund. The WDO will serve as a focus for federal economic activities in western Canada, especially those aimed at the development of new businesses and industries and related business infrastructure. The WDO will:

- co-ordinate and communicate all federal programs and activities that contribute to the economic development and diversification of the west;



- support business infrastructure to further the economic development and diversification of the western economy;
- undertake activities that will facilitate the creation of new enterprises and businesses consistent with evolving international trade policy;
- represent the interests of western Canada in the development of national policies and the design of national programs, ensuring that western Canada is effectively linked to decision-making in Ottawa; and
- the WDO will work closely with the western provinces and the private sector in promoting the diversification of the western economy.

### 3.7.1 DRIE Programs

#### 3.7.1.1 Defence Industry Productivity Program (DIPP)

To enhance economic growth through the promotion of viable defence or defence-related exports, to provide a defence industrial base, and to maintain a defence technology capability.

Eligibility: Companies that demonstrate the intent to employ advanced technology in a defence-oriented capability or capacity directed to develop defence and civil export sales are eligible.

Contact: DRIE Defence Industry Productivity Program, 235 Queen Street, Ottawa, Ontario, K1A 0H5

#### 3.7.1.2 Industrial and Regional Development Program (IRDP)

IRDP is the core program of DRIE, designed to promote industrial and regional experience with its development in Canada. It is a multi-faceted program of industrial financial assistance designed to combat regional disparities in Canada. An exception is Atlantic Canada, where IRDP is administered by the Atlantic Canada Opportunities Agency (ACOA) for all applications of less than \$20million. DRIE will handle applications above that amount.

Eligibility: Manufacturers and processors.

Contact: The DRIE or ACOA office nearest you.

#### 3.7.1.3 The Small Business Bond

This program is a tax measure designed to reduce the cost of borrowing for qualifying farmers, fishermen, small business corporations and unincorporated businesses who are experiencing financial difficulties. The net impact, however, is somewhat reduced by the fact that borrowers cannot deduct the interest charges for tax purposes. The Small Business Bond program expires on December 31, 1987.



Eligibility: Small Business Bonds may be issued by a firm experiencing financial difficulty if it falls into one of four categories:

- an individual who is sole proprietor of an active business;
- a partnership that carries on an active business;
- a corporation which is entitled to a small business deduction and is a small business corporation within the meaning of the Income Tax Act; or
- a co-operative venture, all or substantially all of the assets of which are used in an active business carried on by it in Canada.

Contact: Information is available from Revenue Canada district taxation offices, or by phoning (collect) the Small Business Office in Ottawa at (613) 995-9197.

#### 3.7.1.4 Small Business Loans Act (SBLA) Business Improvement Loans

The Small Business Loans Act (SBLA) is designed to help new and existing small businesses obtain intermediate-term loans from chartered banks and other designated lenders to help finance specified fixed asset needs. These business improvement loans are made directly by approved lenders to small business enterprises. The SBLA provides for loss-sharing arrangements between the lenders and the federal government.

Eligibility: Business improvement loans can be made to a small business enterprise operating for gain or profit if the principal business carried on comes within any of the following classes:

- manufacturing
- wholesale/retail trade
- service business (including
- transportation
- insurance and real estate
- agencies)
- communications
- construction

Contact: Information is available from all chartered banks, the nearest DRIE office, or by a collect call to the Small Business Office in Ottawa at (613) 995-9197.

3.7.1.5 The Technology Outreach Program (TOP)

A new DRIE program, TOP provides start-up and sustaining assistance to non-federal government, non-profit technology institutions responding to national diffusion priorities to improve the productivity and competitiveness of Canadian industry.

Eligibility: Incorporated non-profit organizations (industry associations, provincial research organizations or technology centres affiliated with universities or other educational organizations) established in Canada to provide technology development or diffusion or critical-skills training in support of industry.

Contact: The Technology Liaison Directorate (EOII), 235 Queen Street, Ottawa, Ontario, K1A 0H5 (613) 954-3464 or 954-3468

3.7.1.6 The Technology Opportunities in Europe Program (TOEP)

A new DRIE program, TOEP provides assistance to Canadian firms to facilitate participation in EUREKA high-technology projects and to promote technology co-operation with European firms involved in EUREKA projects.

Contact: The Information Technologies Industry Branch (EITI), 235 Queen Street, Ottawa, Ontario, K1A 0H5 (613) 954-5598

3.7.2 ACOA Programs

3.7.2.1 Enterprise Cape Breton Program (ECB)

The ECB Program is an umbrella program which provides assistance to eligible applicants by giving "one-stop shopping" access to an array of industrial assistance and incentive programs and authorities currently provided separately by DRIE/ACOA and by the Industrial Development Division (IDD) of DEVCO. In addition, ECB co-operates with DEVCO in the provision of DEVCO's Industrial Assistance Program.

The program is designed to establish and maintain a favourable climate for private sector investment, entrepreneurship and increased industrial and commercial activity in order to respond to the economic needs of Cape Breton. It achieves this by improving existing long-term employment, further developing the existing industrial infrastructure in the area, reducing the multiplicity of federal, industrial and commercial development assistance agencies, and contributing to the diversification of the industrial base of the area.

Eligibility: Industrial and businesses wishing to establish in Cape Breton with a view to providing employment and enhancing the economy of the island.

Contact: Enterprise Cape Breton, PO Box 2001, Sydney, Nova Scotia, B1P 6K7 Toll free 1-800-565-9460

### 3.7.2.2 Atlantic Enterprise Program (AEP)

The AEP will assist projects in Atlantic Canada, providing loan guarantees up to \$1 billion and interest rate buy-downs of up to six percentage points, to stimulate and support new private investment. Term loans are for a minimum of \$100,000, and loan guarantees are for a maximum of 85 percent of the principal amount of the loan. The Quebec office of the Department of Regional Industrial Expansion will administer the AEP in the Gaspé.

Eligibility: Businesses in manufacturing and processing, related service sectors, tourism and primary industries.

Contact: Information is available at the nearest ACOA or DRIE office.

### 3.7.2.3 Industrial and Regional Development Program (IRDP)

IRDP is a multi-faceted program of industrial financial assistance designed to promote industrial and regional development and to combat regional disparities in Canada. In Atlantic Canada, IRDP is administered by the newly-formed Atlantic Canada Opportunities Agency (ACOA) for all applications of less than \$20 million. DRIE handles applications of more than that amount.

Eligibility: Manufacturers and processors.

Contact: The ACOA or DRIE office nearest you.

## 3.8 Energy and Energy Conservation

The Department of Energy, Mines and Resources is involved with the discovery, development, and utilization of Canada's mineral and energy resources. Research is undertaken in the earth, mineral, and metal sciences and on social and economic analysis. The department is divided into three sectors: the Energy Policy Sector; the Mineral Policy Sector; and the Science and Technology Sector.

### 3.8.1 Bioenergy Development Program

Originally part of the ENFOR Program, managed by the Canadian Forestry Service of Environment Canada, the Biomass Conversion program has now been transferred to Energy, Mines and Resources.

Eligibility: Any Canadian organization capable of conducting pertinent research, development, or demonstration work is eligible.

Contact: Renewable Energy Division, Energy, Mines and Resources Canada, 460 O'Connor Street, Ottawa, Ontario, K1A 0E4 995-9447

3.8.2 Canada Centre for Mineral and Energy Technology (CANMET) Energy Conversion Cost-Shared Program 1984-85

CANMET solicits proposals for cost-shared R&D work on all of Canada's fossil fuel resources: coal, oil sands, oil shale, heavy oil, conventional oil, and natural gas. The research undertaken by CANMET reflects national and regional needs and is designed to complement research by the private sector.

Eligibility: Industries involved in energy supply, processing, or utilization and other organizations interested in energy conversion.

Contact: CANMET, Technology Information Division, Energy, Mines and Resources, Ottawa, Ontario, K1A 0G1 (613) 995-4059

3.8.3 Canadian Industry Program for Energy Conservation (CIPEC)

This program is designed to set and monitor energy efficiency goals, to disseminate information on energy management and to mediate between industry and government on energy issues.

Eligibility: Open to all industrial sectors.

Contact: Business and Government Energy Management Division, Energy Conservation Branch, Energy, Mines and Resources, Ottawa, Ontario, K1A 0E4 (613) 995-9447

3.8.4 Industry Energy Research and Development Program (IERD)

To provide funds to enable industry to develop new technologies in the field of energy conversion.

Eligibility: The program is open to companies incorporated in Canada, groupings of companies and individuals, trade and resource organizations, and consulting firms.

Contact: Business and Government Energy Management Division, Energy Conservation Branch, Energy, Mines and Resources, 580 Booth Street, Ottawa, Ontario, K1A 0E4 995-9447

3.8.5 Wind Energy Technology

To encourage R&D in this area, the February 1986 budget proposed that wind energy equipment will be eligible for a faster capital cost allowance write-off, effective February 26, 1986.

Eligibility: Specified equipment which generates electricity by use of wind will be eligible for a three-year write-off.

Contact: Business and Government Energy Management Division, Energy Conservation Branch, Energy, Mines and Resources, 580 Booth Street, Ottawa, Ontario. K1A 0E4 995-9447

3.8.6 The Solar Energy Development Program

Financial Assistance is provided to research, development, and demonstration projects in active and passive solar energy, small-scale hydroelectric, wind and geothermal energy.

Eligibility: Any Canadian organization.

Contact: Renewable Energy Division, Energy, Mines and Resources, 460 O'Connor Street, Ottawa, Ontario, K1A 0E4 995-9447

3.8.7 ENERDEMO Canada Program

Financial Assistance is given to accelerate the adoption and commercialization of conservation and renewable energy technologies.

Contact: Business and Government Energy Management Division, Energy Conservation Branch, Energy, Mines and Resources, 580 Booth Street, Ottawa, Ontario, K1A 0E4 995-9447

3.8.8 Federal Energy Management Program (FEMP)

FEMP focuses on the energy management activities of federal departments, agencies, crown-owned buildings and transportation fleets. It provides energy audits, training, information and energy awareness, advice on the development of material, energy efficiency plans and goals and demonstration projects.



3.8.9 Commercial Institutional and Agricultural Energy Management Task Force Program

This program provides minimal funding and technical assistance to groups of volunteers (six sector task forces) from the private sector to stimulate efficient energy management. Activities include information exchange, sector studies and technical publication seminars and workshops on energy management practices and technologies.

3.8.10 Energy Management and Technology Transfer Program (EM&TT)

In co-operation with the private sector, utility companies and other government departments, EM&TT will provide information and assistance on energy-related technologies for improving energy efficiency.

The program will assist in planning and supporting seminars and workshops on energy management.

Eligibility: EM&TT is primarily directed to industry, commerce, institutions and federal government departments.

Contact: Business and Government Energy Management Division, Energy Conservation Branch, Energy, Mines and Resources Canada, 580 Booth Street, Ottawa, Ontario, K1A 0E4

3.8.11 Federal Tax Incentives for Energy Recovery and Alternative Energy Sources

This incentive is an accelerated capital cost allowance designed to encourage business and industry to reduce energy waste, to decrease dependence on oil and to switch to renewable energy sources.

Simply stated, it is a "fast write-off" which applies to machinery and equipment which form part of a system as listed in Class 34 of the Income Tax Regulations. In these regulations, eligible assets that save energy or use renewable sources of energy can be written off over:

- two years, if acquired within the eligible period but before November 12, 1981 (up to 50 percent in the first year and the balance in any subsequent year);
- three years, if acquired within the eligible period but after November 12, 1981 (up to 25 percent in the first year, up to 50 percent in the second year and the balance in any subsequent year);

Eligibility: To qualify, an asset must be acquired by a Canadian taxpayer for use in a business in Canada and must also be certified by the Minister of Energy, Mines and Resources.

**CONTACT:** Tax Incentive Programs Secretariat, Industrial Energy Division, Energy Conservation and Oil Substitution Branch, Energy, Mines and Resources, 580 Booth Street, Ottawa, Ontario, K1A 0E4 (613) 995-9447

### 3.9. Environment

Environment Canada concentrates on raising public awareness of environmental issues such as acid rain and other pollution hazards. The Environmental Protection Service produces seminars on toxic substances, hazardous waste management, oil spills, and enforcement strategies.

#### 3.9.1 Development and Demonstration of Resource and Energy Conservation Technology (DRECT)

DRECT is a cost-sharing program to encourage the development and demonstration of prototype systems and new technology designed to recover or recycle wastes. Saving energy, especially the energy derived from non-renewable resources, is a main objective of DRECT.

Eligibility: Private industries and organizations, as well as provincial and municipal authorities working with innovative methods, procedures, processes, or equipment.

Contact: Regional offices of the Environment Protection Service or write directly to: DRECT Program Technical Services Branch, Environment Protection Service ENV, Ottawa, Ontario, K1A 1C8 (819) 997-3405

### 3.10 Financial, Banking and Management Services

The Federal Business Development Bank (FBDB) is a Crown corporation that exists to promote and assist most types of businesses in Canada either at the startup stage or at some other stage in their development. It pays particular attention to the needs of small and medium-sized businesses. FBDB offers three principal services to Canada's business community: financial services (loans, loan guarantees, and financial planning), investment banking, and management services such as counselling, training, and information.

To locate the closest FBDB branch call the toll free numbers listed below, consult the telephone directory, or contact one of the Regional Offices listed below:

Atlantic Regional Office  
Federal Business Development Bank  
Suite 1400, Cogswell Tower  
Scotia Square, Halifax, Nova Scotia  
B3J 3K1 (902) 426-7860

Quebec Regional Office  
Federal Business Development Bank  
800 Victoria Square  
Montreal, Quebec  
H4Z 1C8 (514) 283-3657

Ontario Regional Office  
Federal Business Development Bank  
777 Bay Street  
Toronto, Ontario  
M5G 2C8 (416) 973-1144

Prairie and Northern Regional Office  
Federal Business Development Bank  
300 - 161 Portage Avenue East  
Winnipeg, Manitoba  
R3B 0Y4 (204) 949-7811

British Columbia and Yukon Regional Office  
Federal Business Development Bank  
900 West Hastings Street  
Vancouver, British Columbia  
V6C 1E7 (604) 666-7800

### 3.11 Fisheries and Oceans

The Federal Department of Fisheries and Oceans is responsible for fisheries management and research in coastal and inland waters; fisheries economic development and marketing; international fisheries negotiations; oceanographic research; hydrographic surveying and charting; and the development and administration of fishing and recreational harbours.

#### 3.11.1 Fisheries Improvement Loans

To make credit available to fishermen for a variety of fisheries improvement projects.

Eligibility: Fishermen, a person who owns or plans to obtain a fishing vessel or fish-catching and related equipment, and makes his/her living by fishing.

Contact: Fishermen seeking assistance should apply to lending agency of choice. For general information: Fisheries Improvement Loans Administration, Fisheries and Oceans, 200 Kent Street, Ottawa, Ontario, K1A 0E6 993-0600

### 3.12 Native and Northern Development

The Department of Indian and Northern Affairs is responsible for the government's special policy and programs concerning the Indian and Inuit people.

3.12.1 Inuit Economic Development Program

To further the economic and social betterment of Inuit by encouraging and assisting the planned development of Inuit-controlled business enterprises.

Eligibility: Individual Inuit, groups of Inuit, Inuit co-operatives or companies.

Contact: For applicants in the NWT: nearest NWT economic development officer. For applicants elsewhere in Canada: Department of Indian Affairs and Northern Development, 320 East Saint Joseph Street, PO Box 3725, St. Roch, Quebec, G1K 7Y2 (418) 648-3270

3.12.2 Native Economic Development Program

This will assist native people in the development of economic self-reliance.

Eligibility: All Inuit, Métis, status and non-status Indians in Canada.

Contact: Local DRIE office, or Native Economic Development Program 330 Portage Avenue, Suite 1103, Winnipeg, Manitoba, R3C 0C4

3.12.3 Indian Economic Development Fund

The present Indian Economic Development Fund was established in 1970 by the Department of Indian and Northern Affairs to provide a source of financing for the development of viable economic and employment opportunities for Indian people. Through the fund, a source of capital is available to ensure that Indian businesses have access to basic financing and to the managerial, professional and technical services necessary for the successful operation of their enterprises.

Eligibility: Eligible applicants include Indian bands and Indian or non-Indian individuals, groups or business enterprises which contribute to the economic development of Indian people, both on and off reserves.

Contact: Regional offices of Indian and Northern Affairs Canada, or Headquarters, Indian and Northern Affairs Canada, Resource Economic and Employment Development Branch, Indian and Inuit Affairs Program, Les Terrasses de la Chaudière, 10 Wellington Street, North Tower, Hull, Quebec. Mailing address: Ottawa, Ontario, K1A 0H4 (819) 994-0445

3.13 Collective Bargaining, Industrial Relations and Equal Opportunity Information and Services

Labour Canada's objective is to promote better industrial relations between management and employees.

3.13.1 Financial Assistance Program for Labour Education

To encourage smoother collective bargaining by a better informed union membership; to assist labour in obtaining a more knowledgeable participation in socioeconomic affairs; and to achieve a more equitable distribution of educational support.

Eligibility: All legally constituted labour organizations in Canada, and individual union members.

Contact: Additional information may be obtained from: Labour Education Unit, Labour Canada, Ottawa, Ontario, K1A 0J2 (819) 997-2865

3.13.2 Industrial Relations Information Service (IRIS)

This service provides information to both employers and employees.

Eligibility: IRIS is a "one-stop" information service offered by Labour Canada to the industrial relations community in Canada, i.e. individuals, and organizations involved in industrial relations and collective bargaining, either in federal or provincial jurisdiction.

Contact: IRIS, Labour Canada, Ottawa, Ontario, K1A 0J2 (819) 997-3117, collect calls accepted. Telex: 0533640

3.13.3 Women's Bureau

To promote equality between men and women in the workplace through research, policy development, public education, publications and small grant programs.

Eligibility: The bureau's client groups include women's organizations, professional associations, governments at all levels, educational institutions, business, labour and the Canadian public.

Contact: Women's Bureau, Labour Canada, Ottawa, Ontario, K1A 0J2 (819) 997-1550



### 3.13.4 Technology Impact Program

The program has two broad objectives:

- to support research on the social and human effects of technological change in the workplace. This could include the impact of technological change on health and safety, ergonomics, labour-management relations, unions and unionization, job satisfaction, productivity and working conditions;
- to support demonstration and pilot projects that illustrate effective methods of co-operative development and implementation of technological innovation.

The program is designed to support practical projects that have direct application to the workplace environment and will foster a recognition of the social implications of technological advancements.

Eligibility: Labour Canada will accept applications from groups or organizations capable of conducting a research project within the terms of this program. Priority will be given to labour organizations and to joint labour-management ventures. Groups and organizations that are or are likely to be affected by technological change, as well as organizations or individuals proposing research or demonstration projects of direct relevance to the workplace, are eligible to apply. Before applying, individual researchers are advised to seek affiliation with an organization affected by technological change.

Contact: Program Co-ordinator, Technology Impact Program, Labour Canada, Ottawa, Ontario, K1A 0J2 (819) 997-5470

### 3.14 Scientific Information and Services

The National Research Council co-ordinates most programs in this area. Its activities are organized into two distinct areas. Scientific and industrial research programs encompass basic and exploratory research with the purpose of acquiring new knowledge and expertise in addition to researching long-term problems of national concern. Scientific and technical information programs involve the collection, storage and retrieval of scientific and technical information. Information of value to the business person is also available from other government agencies, organizations and crown corporations.

3.14.1 Canada Institute for Scientific and Technical Information (CISTI)

To provide Canadian researchers, technologists, and managers in industry, university, and government with scientific and technical information at the right time and place, and in the right form.

Contact: Located in Ottawa-Hull at (613) 993-1600

3.14.2 Industrial Research Assistance Program (IRAP)

IRAP is a salary support program designed to increase the calibre and scope of industrial research and development through the use of the latest available technology.

Eligibility: Generally oriented towards small and medium-sized manufacturing firms.

Contact: For more information on contributions to large projects contact the IRAP office in Ottawa, (613) 993-0331. For salary support programs, contact the Industrial Research Assistance Program, National Research Council, Building M-55, Montreal Road, Ottawa, Ontario, K1A 0R6 (613) 993-3431 or (613) 993-3995

3.14.3 Program for Industry/Laboratory Projects (PILP)

PILP is designed to help Canadian companies undertake projects that make use of the scientific and engineering knowledge and resources of government laboratories.

Eligibility: Canadian-based companies with the appropriate financial, managerial, technical, manufacturing and marketing capabilities can participate in this program.

Contact: Further information can be obtained by contacting PILP General Manager, Dr. John Vose (613) 993-0357

3.14.4 Research Divisions

The National Research Council, the federal government's largest and most diversified research organization, is dedicated to developing and maintaining a knowledge base for Canada's present and future needs, and to applying science and technology to the economic and regional development of the country.

Contact: National Research Council, Montreal Road, Ottawa, Ontario, K1A 0R6

3.14.5 Natural Sciences and Engineering Research Council (NSERC)  
University-Industry R&D Program

The Natural Sciences and Engineering Research Council, the largest single funder of university R&D in Canada, supports a spectrum of R&D activities to promote greater co-operation between university researchers and Canadian industry.

Contact: For information on NSERC'S university programs, contact Paul W. Latour, Assistance Director (University-Industry Program), Natural Sciences and Engineering Research Council, Ottawa, Ontario, K1A 0R6 (613) 996-1898

4 PROVINCIAL INCENTIVE PROGRAMS

This section provides information on provincial plans. The provinces have a full range of incentives available to entrepreneurs. Of necessity, to conserve space and to limit coverage to plans of direct relevance to investment decisions, provincial incentives have been divided into four groups:

- financial incentives providing backing to entrepreneurs for start-ups (grants, loans or guarantees) or for expansion. These incentives also comprise instances in which human resources are involved as well as feasibility studies for investigating new markets or the practicality of introducing new products;
- incentives for research and development or research into product technology;
- incentives designed to improve or enhance productivity or plant efficiency; this would include counselling services and feasibility studies for new technology or equipment; and
- incentives for the development or expansion of both export and domestic markets, including support for attendance at or the establishment of trade fairs.

Economic and Regional Development Agreements

A number of incentives fall under joint federal-provincial jurisdiction. In particular, these include Economic and Regional Development Agreements (ERDAs) in which funding and administration are shared by federal and provincial governments. The territorial governments have similar agreements called Economic Development Agreements (EDAs). In a few instances, there is third party funding as well. All provinces and territories have ERDA or EDA master agreements and subsidiary agreements covering specified projects. Although ERDA and EDA agreements are shown in this chapter by province or territory, grouped according to the type of incentive, it is recognized that there is significant federal involvement.

ERDAs are umbrella agreements under which two governments do business together for the promotion of regional economic development. The central purpose of each ERDA is to set the framework within which the Canadian government and a provincial government together can maximize economic growth by drawing on the inherent strengths of that province. Federal government responsibility for the ERDAs rests, in the case of the Atlantic provinces, with the minister responsible for the Atlantic Canada Opportunities Agency, and in the case of other provinces, with the minister of Regional Industrial Expansion. These ministers work with all federal ministers concerned with economic matters to co-ordinate their activities related to ERDAs. Each province has designated an "ERDA minister" who similarly coordinates ERDA-related activities on the provincial side. When the two governments wish to arrange for joint undertakings, which may include funding of specific initiatives, the responsible sectoral ministers may enter into ERDA subsidiary agreements. Another alternative may be a memorandum of understanding. That instrument is most often used when the objectives relate primarily to co-ordinating respective existing economic development activities.

4.1 Ontario

4.1.1 Innovation Ontario

The Innovation Ontario program provides pre-venture capital assistance to small businesses in high technology.

Contact: Ministry of Industry, Trade and Technology Manufacturing Productivity Services (MITT) Field Offices

4.1.2 Ontario Development Corporation (ODC)

Financial assistance for the establishment and expansion of secondary manufacturing industries, services closely allied with secondary manufacturing, tourism operations and attractions, and high technology industries.

Eligibility - Proposals (entrepreneur or established business) will be assessed against regional, technical, export and social considerations to ensure overall compatibility with the province's economic priorities and the applicant's need for ODC participation.

Contact: MITT Field Offices



#### 4.1.3 Small Business Development Corporations (SBDC)

To encourage equity investment in Ontario-based small businesses, incentives are provided to those who buy shares in an SBDC(s) for the purpose of directing the invested funds to qualifying businesses.

Eligibility: Applicant must employ no more than 150 full-time employees. Seventy-five percent or more of the employees (salaries and wages) must be paid in Ontario. The applicant must be primarily involved in manufacturing and processing, tourism, book publishing, computer services, or prescribed research and development. The investment cannot be used for purposes relending, investment in land, or any kind of reinvestment outside of Canada.

Contact: Ministry of Revenue, Multilingual Information Centre. In Metro Toronto, 965-8470; in area code 416, dial 1-800-263-7000; in Oshawa, 433-5155; in area code 807, 1-800-263-3792; in all other areas, 1-800-263-3960.

Policy intent interpretations and rulings: Ministry of Treasury and Economics, Frost Building South, Toronto, Ontario, M7A 1Y7 (416) 965-6869

#### 4.1.4 Joint Venture Assistance, MITT

Purpose: To act as a catalyst for technology transfers through joint venture and licensing between Ontario manufacturers and leading technology holders in Europe, Japan and the US.

Eligibility: All manufacturing industries.

Contact: Business Development (416) 965-3560; MITT International Offices; MITT Field Offices

#### 4.1.5 Canada/Ontario Tourism Development Sub-agreement

Purpose: To improve and expand the province's attractions and resort base to make Ontario more internationally attractive. Financial assistance in the form of repayable or non-repayable contributions may be available for projects under the following programs:

Studies: Feasibility studies, which include studies to determine project feasibility from the point of view of administration, operation, financial viability, market, and design. Funds may also be provided for the development of a financial prospectus and for finding investors.

Product Development: Projects will involve capital development including the purchase of equipment, new construction, improvements to existing buildings and facilities, recreational assets, as well as access, sewer, water, and power requirements.



Marketing: Funding may be provided for the development of marketing and promotional programs.

Visitor Services: Projects may involve the identification of specific needs, assessment of delivery options, and the establishment of the services proposed.

Eligibility: Eligible applicants may include formal or informal groups, as well as other legal entities, individuals and associations.

Contact: Local field office, Ontario Ministry of Tourism and Recreation, or local field office, Department of Regional Industrial Expansion (DRIE)

#### 4.1.6 Start-up: Youth Venture Capital/Student Venture Capital

Purpose: To encourage Ontario youths to participate in entrepreneurial activity, the Ministry of Skills Development has established two interest-free loan programs. The Youth Venture Capital (YVC) program is for youths opening a year-round business, and the Student Venture Capital (SVC) program is for students opening a summer business.

Eligibility: YVC: Age 18-24, or age 25-29 if the applicant graduated from a post-secondary educational institute within the last year.

Contact: Youth Hotline: 1-800-387-0777

#### 4.1.7 Ontario Centre for Farm Equipment and Food Processing Technology

This centre will work closely with Ontario-based food processors, manufacturers, and growers to adapt and introduce state-of-the-art technology for use here and around the world. The centre will adapt and demonstrate farm and food processing machinery, test the operation and safety of farm equipment, provide information on farm and food processing and machinery, and give food processors a consulting service of extension specialists and technicians.

Farm Equipment and Food Processing Technology Centre, 870 Richmond Street, Chatham, Ontario, N7M 5J5 (519) 354-6883

#### 4.1.8 Ontario's Technology Centres

Purpose: To assist small and medium-sized firms to adapt new technology to their businesses.

4.1.8.1 Ontario Centre for Microelectronics

To help small and medium-sized manufacturers obtain, understand, and adapt custom-made semiconductors (chips) for new product innovations; to promote a general awareness of the innovative potential of microelectronics, and to provide a focal point for the development of educational resources to meet the training challenges of microelectronic technology.

Contact: Microelectronics Technology Centre, 1150 Morrison Drive, Suite 400, Ottawa, Ontario, (613) 596-6690

4.1.8.2 Ontario Robotics Centre

This centre, and the Computer-Aided Design and Computer-Aided Manufacturing (Ontario CAD/CAM Centre) in Cambridge, promote and encourage the adoption of leading-edge innovative manufacturing technologies, especially among small and medium-sized firms throughout Ontario.

Contact: Ontario Centre for Advanced Manufacturing - Robotics, 743 Monaghan Road, Peterborough, Ontario, K9J 5K2 (705) 876-1611

Contact: Ontario Centre for Advanced Manufacturing - CAD/CAM, 400 Collier-MacMillan Drive, Cambridge, Ontario, N1R 7H7 (519) 622-3100

4.1.8.3 Ontario Centre for Resource Machinery

This centre is designed to investigate opportunities for developing domestic machinery and equipment manufacturing capabilities for resource-based industries.

Contact: Ontario Centre for Resource Machinery, 127 Cedar Street, 4th Floor, Sudbury, Ontario, P3E 1B1 (705) 673-6606

4.1.8.4 Ontario Centre for Automotive Parts

This centre brings together the interests of parts suppliers, automotive companies, unions, universities, research organizations and governments to develop programs to keep pace with the rapid evolution of parts technology both within North America and abroad.

Contact: Ontario Centre for Automotive Parts, 63 Church Street, 2nd Floor, St. Catharines, Ontario, L2R 3C4 (416) 688-2600

4.1.8.5 Canada-Ontario Centre for Advanced Manufacturing.

This centre encourages Ontario-based manufacturers to improve their manufacturing process technology.

Contact: Centre for Advanced Manufacturing - Windsor, 2795 Kew Drive, Windsor, Ontario, N8T 3B7 (519) 974-3377

Contact for information on all centres: Innovation and Technology Division, Ministry of Industry, Trade and Technology, 3rd Floor, Hearst Block, 900 Bay Street, Toronto, Ontario, M7A 2E1 (416) 963-1373

4.1.8.6 Ontario Research Foundation (ORF)

Purpose: To provide manufacturers, particularly small and medium-sized companies, with advice and help in the fields of science, engineering, and technology.

Eligibility: All manufacturing industries.

Contact: Ontario Research Foundation, Sheridan Park Research Community, Mississauga, Ontario, L5K 1B3 (416) 822-4111

4.1.8.7 Defence Equipment Program

Purpose: To advise potential manufacturers of new opportunities.

Eligibility: Canadian companies.

Contact: MITT Business Development Branch, 7th Floor, Hearst Block, 900 Bay Street, Toronto, Ontario, M7A 2E1 (416) 965-3560

4.1.9 Ministry of Industry, Trade and Technology Manufacturing Productivity Services (MITT)

Purpose: To provide consulting services to small manufacturing companies.

Eligibility: New or existing Ontario manufacturers and their support industries.

Contact: Ministry of Industry, Trade and Technology. For MITT field offices, see list "A"

4.1.10 Investment Marketing Counselling Assistance to Potential Investors

Purpose: To provide information on investment opportunities, co-ordinate visits and publish a fact book on Ontario.

Contact: Ontario's international offices: European Branch, (416) 965-5715; Americas Branch, (416) 965-9704; Pacific Rim Branch, (416) 965-1620;

4.1.11 New Plant Location Counselling Service, MITT

Purpose: To help manufacturers find new locations or expand manufacturing facilities.

Eligibility: Any manufacturer.

Contact: Field offices: Ministry of Industry, Trade and Technology, Plant Location Services, (416) 965-7299

4.1.12 Industry and Trade Research, MITT

Purpose: This is a free service to improve the availability of research data.

Eligibility: New or existing Ontario manufacturers and their support industries.

Contact: Field offices, Ministry of Industry, Trade and Technology

4.1.13 Financial Planning Model for Manufacturers

Purpose: To help small manufacturing companies plan ahead, and introduce them to the techniques of financial planning and to computer financial modelling.

Eligibility: Any federal or provincial chartered Canadian-owned small manufacturing company. The company should be past its start-up phase and have adequate financial records.

Contact: Field offices, Ministry of Industry, Trade and Technology

4.1.14 Immigrant Entrepreneur Program

Purpose: To provide counselling on business proposals by small foreign investors.

Contact: Ontario's international offices or (416) 965-5331. Field Offices, Ministry of Industry, Trade and Technology; Immigrant Entrepreneur Services, (416) 965-5331

4.1.15 Supplier Development, MITT

Purpose: To assist in a supplier development function. The Sourcing Centre has at its disposal information on over 10,000 Ontario manufacturers from which prospective "quality house" suppliers can be identified. Directories listing the capabilities of various manufacturing sectors in the province are also available.

Eligibility: All manufacturing industries.

Contact: Canada-wide toll-free 1-800-387-1436; or (416) 963-3510; MITT Field offices

4.1.16 Global Product Mandating, MITT

Purpose: To provide consulting services to multinational enterprises desiring to enhance their business missions by way of product mandating.

Eligibility: Ontario subsidiaries of multi-national enterprises.

Contact: MITT Field Offices

4.1.17 Manufacturing Opportunity Shows

Purpose: To stimulate domestic production through local and regional shows of products manufactured outside Canada.

Eligibility: Canadian or foreign manufacturers seeking domestic production of imported products. There must be sufficient volume to justify domestic manufacture.

Contact: Field offices, Ministry of Industry, Trade and Technology.

4.1.18 Domestic Trade Fairs

Purpose: To increase sales of Ontario manufactured goods in the Canadian market.

Eligibility: Canadian companies with Canadian manufactured products, and agents and distributors of such products.

Contact: Field offices, Ministry of Industry, Trade and Technology.

4.1.19 Sector Import Replacement

Purpose: To encourage Canadian manufacturers in specific sectors to manufacture items that are presently imported.

Eligibility: Manufacturers are invited to attend manufacturing opportunity shows and workshops as announced.

Contact: Field offices, Ministry of Industry, Trade and Technology.

4.1.20 Export Support Loans

Purpose: To develop exports that would not ordinarily be financed by conventional sources. Provides an operating line of credit to Ontario-based exporters who are encountering difficulties in financing sales to other countries.

Eligibility: Any Ontario manufacturer who cannot obtain financing from any other source.

Contact: Local offices, Ontario Development Corporation.



4.1.21 Intern Program - Marketing, MITT

Purpose: To aid Ontario companies desiring to hire a recent university graduate to develop export markets abroad.

Eligibility: Ontario industry.

Contact: Field offices, Ministry of Industry, Trade and Technology.

4.1.22 Incoming Buyers, MITT

Purpose: To introduce major international buyers to Ontario manufacturers.

Eligibility: Accredited foreign buyers.

Contact: Field offices, Ministry of Industry and Technology.

4.1.23 Export Consortia, MITT

Purpose: To develop Ontario exports through joint export marketing.

Eligibility: Ontario manufacturers.

Contact: Export Consulting Group, Queen's Park, Toronto, Ontario, or field offices, Ministry of Industry, Trade and Technology.

4.1.24 Trade Exhibitions, MITT

Purpose: To expand Ontario's international markets through participation in major international trade exhibitions in foreign countries.

Eligibility: Any approved Ontario manufacturer. Between five and 15 manufacturers take part in each show.

Contact: Field offices, Ministry of Industry, Trade and Technology.

4.1.25 Trade Missions/Regional Trade Fairs, MITT

Purpose: To help Ontario exporters develop and expand.

Eligibility: Any approved Ontario manufacturer.

Contact: Field offices, Ministry of Industry, Trade and Technology.

4.1.26 Ontario International Corporation

Purpose: Ontario International Corporation is the primary international marketing agency for the Ontario Government, specializing in transactions with foreign governments or international agencies.

Eligibility: Ontario consulting engineers, architects, contractors, management consultants, and consortia of capital goods manufacturers.

Contact: Ontario International Corporation, 8th Floor, Hearst Block, 900 Bay Street, Toronto, Ontario, M7A 2E4 (416) 965-3039

#### 4.2 Prince Edward Island

##### 4.2.1 Prince Edward Island Development Agency and Fund

Contact: Prince Edward Island Development Agency, Marketing Division, West Royalty, Industrial Park, Charlottetown, Prince Edward Island, C1E 1B0 (902) 566-4222

##### 4.2.1.1 Industrial Sites

Purpose: Serviced industrial sites are available for purchase in the West Royalty, Parkdale and Summerside Area industrial parks.

Eligibility: All manufacturers and processors operating or intending to operate on Prince Edward Island are eligible to apply for the purchase of industrial land. Financing of the land purchase may be assisted under the Manufacturing and Processing Term Loan Program.

Contact: As above.

##### 4.2.1.2 Industrial Malls

Purpose: Industrial mall spaces are available for lease to manufacturers and processors in the West Royalty and Summerside Area industrial parks.

Eligibility: All manufacturers and processors operating or intending to operate on Prince Edward Island are eligible for assistance under the program.

Contact: As above.

##### 4.2.1.3 Rental Incentives to Industry

Purpose: In communities without industrial malls, leased space is available to manufacturers, processors, services to manufacturers and processors, and certain other activities.

Eligibility: All new or expanding; manufacturers or processors; services to manufacturers or processors; industrial research and development; computer software development when in support of computer hardware manufacturing; controlled aquaculture and agriculture on a year-round basis in an environment outside their natural habitats; film and sound production and publishing.

Contact: As above.

4.2.1.4 Small Business Equity Program

Purpose: Through the Small Business Equity Program, the Prince Edward Island Development Agency will purchase up to \$100,000 in non-voting preferred shares in a small business to provide a source of financing without adding a debt burden to the small business. The small business will be expected to redeem the preferred shares within five to seven years. "Small business" is defined as any business with less than 100 employees and no more than \$5,000,000 in sales. The application approval will be based on: potential for substantially improved earnings; job creation potential; economic significance of the project to Prince Edward Island; future ability to redeem preferred shares on schedule; and the agency's available budget.

Eligibility: Projects to be considered must show potential for significant earnings or earnings growth through expansion, modernization or financial restructuring of existing businesses or establishment of a new business. Eligible activities include: manufacturing and processing or industries offering services to manufacturing and processing; industrial research and development; computer software development, when in support of computer hardware manufacturing; controlled aquaculture and agriculture on a year-round basis in an environment outside the natural and traditional habitats; film and sound production; publishing, other than newspapers; and tourism investments.

Contact: As above.

4.2.1.5 Small Business Development Corporation

Purpose: A non-repayable cash grant is provided to investors to encourage formation of Small Business Development Corporations which will invest in eligible Prince Edward Island-based businesses. The cash grant is available to residents of Prince Edward Island (individual or companies) and is calculated at 30 percent of the equity investment made by the investor in the Small Business Development Corporation. A chartered accounting firm has advised that the grant would be considered as a reduction of the cost base to the investor for the shares of the SBDC and not as taxable income.

Contact: As above.

4.2.1.6 Manufacturing and Processing Term Loans

Purpose: Term loans are provided to new and existing manufacturers and processors for the purpose of acquiring capital assets such as manufacturing and processing equipment and production facilities. Assistance may also be in the form of working capital for companies that export a significant portion of production from Prince Edward Island. Bridge financing related to approved federal incentive grants is also available.

Eligibility - All manufacturers and processors operating or intending to operate on Prince Edward Island are eligible to apply for term loans.

Contact: As above.

4.2.1.7 Market Development Program

Purpose: To help discover and explore new sales opportunities for primary producers, producers' organizations, processors and manufacturers.

Eligibility: Clients must be primary producers, producers' organizations, processors or manufacturers operating in Prince Edward Island.

Contact: As above.

4.2.1.8 Product Development

Financial and technical assistance is available to primary producers, producers' organizations, processors and manufacturers to help develop and evaluate new and improved products and processes.

Eligibility: Eligible clients must be primary producers, producers' organizations, processors or manufacturers established and operating in Prince Edward Island. A new product need only be new to the particular company requesting assistance. Projects eligible for assistance through the federal Department of Regional Industrial Expansion (DRIE) will not be eligible under this program.

Contact: As above.

4.2.1.9 Market Research, Information and Education

Purpose: Provides financial and technical assistance to primary producers, producers' organizations, processors' organizations, processors and manufacturers to upgrade their marketing skills.

Eligibility: Clients must be existing or potential primary producers, producers' organizations, processors or manufacturers located or to be located in PEI. Projects eligible for assistance through the Federal Department of Regional Industrial Expansion (DRIE) will not be eligible under this program.

Contact: As above.

4.2.1.10 Marketing Program

Purpose: The marketing program is composed of the following programs:

Marketing Plans: This program provides the support required by PEI companies to prepare and implement both short and long-term marketing plans.

Eligibility: Clients eligible for assistance under this program are primary producers, producers' organizations, processors or manufacturers established and operating in PEI. Only products produced, processed or manufactured in Prince Edward Island are eligible for inclusion in the marketing plan.

Licensing/Joint Venture: Financial and technical assistance is provided to manufacturers and processors to secure licensing agreements and joint ventures. The objective of the program is to assist PEI processors and manufacturers to secure, through licensing agreements and/or joint ventures, the technology needed to develop and produce new products.

Eligibility: Clients must be processors or manufacturers located in PEI. Only products with an identified market opportunity will be considered. The company must demonstrate that it has, or could acquire, the necessary production facilities and management capabilities.

Export Contracting: To encourage export activity by Island companies. The PEI Development Agency will secure export contracts and will contract with Island companies to supply the products.

Eligibility: Eligible clients must be firms established and operating in Prince Edward Island who lack experience in exporting a particular product or are inexperienced in doing business in a particular export market. They must demonstrate the ability to meet export contract requirements while maintaining present domestic markets. They must clearly show the commitment and ability to export on a continuing basis. They will be required to fully participate in all aspects of the program in order that they may gain sufficient knowledge of export marketing to continue exporting in the future.

Contact: Prince Edward Island Development Agency, Marketing Division, West Royalty, Industrial Park, Charlottetown, Prince Edward Island, C1E1B0 (902) 566-4222 Telex: 014-44109

#### 4.2.1.11 Off-Island Advertising

Purpose: To assist Prince Edward Island tourism operators to increase tourism revenues through the provision of financial incentives for off-island marketing expenditures.

Eligibility - Individual owner/operators, partnerships, corporations, and tourism associations who promote tourism in mainland markets.

Contact: Department of Tourism, PO Box 2000, Charlottetown, Prince Edward Island, C1A 7N8 (902) 368-5500



4.2.1.12 Festivals and Events

Purpose: To provide financial assistance to community groups or associations in planning and developing annual festivals and events which will attract visitors to the island and encourage their participation in such activities. Financial assistance is provided for the upgrading or expansion of existing festivals and events, or for the introduction of new ones.

Eligibility: Only non-profit community groups or associations which operate festivals or events likely to appeal to tourists are eligible for this assistance.

Contact: Department of Tourism (902) 368-5500

4.2.1.13 Small Business Incentive Program - Forgivable Performance

Targeted at small business, this program is designed to: encourage and accelerate desirable development within the manufacturing, processing and service sectors of the province with the aim of developing additional new job opportunities and/or maintaining existing levels of employment.

Eligibility: To be eligible, a project must involve modernization, expansion or creation of a new operation. As well, the following criteria must be met: maximum capital cost of investment - \$100,000; minimum capital cost of investment - \$5,000; maximum forgivable performance loan (interest free) - \$20,000; for modernization projects - 25 percent of approved capital costs to a maximum of \$7,000; and at least 20 percent equity in the project.

Contact: Department of Industry, Small Business Development Division, (902) 368-4240

4.2.1.14 Advertising and Promotion - Prince Edward Island Development Agency

Purpose: To help primary producers, producers' organization, processors and manufacturers to advertise and promote both their products and companies.

Eligibility: Clients must be primary producers, producers' organizations, processors or manufacturers established and operating in Prince Edward Island. Only products produced, processed or manufactured in Prince Edward Island are eligible.

Contact: Prince Edward Island Development Agency, Marketing Division, West Royalty, Industrial Park, Charlottetown, Prince Edward Island, C1E 1B0 (902) 566-4222.

4.2.1.15 Trade Shows and Displays

Purpose: Technical and financial assistance is available to primary producers, producers' organizations, processors and manufacturers to prepare displays for and to attend product trade shows. The objective of the program is to assist PEI processors and manufacturers to secure, through licensing agreements and/or joint ventures, the technology needed to develop and product new products.

Eligibility: Primary producers, producers' organizations, processors or manufacturers established and operating in PEI. Only products produced, processed or manufactured in PEI are eligible. Clients must demonstrate the ability or potential to complete successfully in the market area(s) covered by the trade show or display. They must demonstrate that the market area(s) covered by the trade show or display offers new or increased sales opportunities. They must provide qualified personnel to staff their exhibit who are able to negotiate sales on behalf of the company.

Contact: As above.

4.2.2 Industrial Prospecting

Purpose: This program is designed to assist island entrepreneurs identify and pursue new developmental investment opportunities in the manufacturing and processing sectors.

Eligibility: Projects to be investigated must represent new developmental opportunities and must be in the manufacturing and processing industries. The applicant must demonstrate a serious interest in a new production activity or investment opportunity. The eligibility of a project and the approval of funding will be determined jointly by the Department of Tourism, Industry and Energy and the Department of Regional Industrial Expansion (DRIE). Market identification and promotional activities are not eligible for assistance under this program.

Contact: Prince Edward Island Development Agency, Marketing Division, West Royalty, Industrial Park, Charlottetown, Prince Edward Island, C1E 1B0 (902) 566-4222

#### 4.2.2 Management Training

**Purpose:** To stimulate the demand for, and the effective participation by, managers in management training and development programs. Funds will be provided to assist in covering the cost of a wide range of management seminars, workshops and courses designed to upgrade the management skills of island business people.

**Eligibility:** Applications for assistance are invited from educational institutions and from private industry associations. Individual businessmen, while not formally organized as an association, are also encouraged to submit requests for assistance. The course, seminar or workshop in question must be designed for management and supervisory personnel and should concentrate on improving managerial skills. Applications must show that there is a sufficient number of private businessmen interested in attending the course, or demonstrate how sufficient interest will be generated. Eligible costs include instructors' fees, travel and accommodation, facility rent, promotion costs, materials, co-ordination expenses, etc.

**Contact:** Department of Industry (902) 368-4240

#### 4.2.3 Human Resource Planning

**Purpose:** To provide present or potential island employers with information on human resource planning and the existing human resource base.

**Contact:** Department of Industry, Research and Analytical Services (902) 368-4240

#### 4.2.4 Tuition Assistance Program

**Purpose:** To encourage owners and senior employees of island-based businesses to improve their management skills. It reimburses a part of the costs of attending approved courses and seminars.

**Eligibility:** Owners and senior-level employees of all island-based businesses. The course or seminar for which assistance is requested must make a direct contribution to the applicant's day-to-day management activities. The course or seminar must be offered by a recognized educational institution or by a qualified instructor. A person who is enrolled in a long-term program such as obtaining a university degree will not be reimbursed for more than three courses (or 18 semester hours) of the upgrading program. Assistance is also available for out-of-province management courses and seminars, provided that a similar course is not available locally. Courses of a technical (as opposed to a managerial) nature are not eligible for assistance.

**Contact:** Department of Industry (902) 368-4240

#### 4.2.5 Venture Planning Service

This service explores the feasibility of business start-up ideas and, with the client, prepares a business management plan. Plans normally address markets, operations, financing, and overall feasibility.

Eligibility: This program is available to any island business.

Contact: Director, Community Economic Development Division, Box 2000, Department of Industry, Charlottetown, Prince Edward Island, C1A 7N8 (902) 368-4240

#### 4.2.6 Rural Business Centre Program

Purpose: To facilitate the provision of additional local services in the province's rural areas, to create additional local employment opportunities, and to encourage entrepreneurship.

Eligibility: Communities - projects must be submitted by an authorized community economic development organization and be supported by the municipality. Both renovation and new construction may be considered. Preference will be given to proposals where the new business will complement existing commercial services and will make a significant contribution to the community's economic development. New Business Operators - This program is available on a one-time basis only to new first time entrepreneurs who do not qualify for other provincial or federal government financial assistance programs.

Contact: Community Economic Development Division, Department of Industry, PO Box 2000, Charlottetown, Prince Edward Island, C1A 7N8 (902) 368-4240

#### 4.2.7 Student Policy Projects

Purpose: Students enrolled in the fourth year of the Business Administration program at the University of Prince Edward Island work in teams to prepare a detailed feasibility study to determine the viability of a potential new business opportunity.

Eligibility: The students must meet the guidelines specified by the University of Prince Edward Island, School of Business Administration.

Contact: Industry Branch, Department of Industry, PO Box 2000, Charlottetown, Prince Edward Island, C1A 7N8 (902) 368-4240

#### 4.2.8 Graduates-in-Business

Purpose: To create additional job opportunities by accelerating the identification and start-up of new small businesses appropriate to the environment of Prince Edward Island.



Eligibility: Applicants must have a degree/diploma/certificate from an accredited university or a two-year college post-secondary course in a course of studies which will assist the applicant to manage his/her business successfully. Applicants must have graduated within the last three years and must be presently unemployed or underemployed given his/her qualifications.

Contact: Industrial Development Division, Department of Industry, PO Box 2000, Charlottetown, Prince Edward Island, C1A 7N8 (902) 368-4240

#### 4.2.9 Industrial Research

This program provides funds to contract consultants to research specific opportunities in the manufacturing and processing industries, and to conduct detailed feasibility studies of such opportunities.

Eligibility: The department may engage a consultant either as the result of a perceived opportunity or in response to a request from a private business person or industry group. Opportunities to be investigated must be within the manufacturing or processing industries. Should the request originate from a private business person, he or she must be able to carry out the recommendations which might result from the consultant's report. Projects eligible for assistance under the Industrial Development Programs of the federal Department of Regional Industrial Expansion (DRIE) will not be eligible for assistance under this program.

Contact: Department of Industry (902) 368-4240

#### 4.2.10 Labour Market Information Service

Purpose: This service provides employers with data on wage rates by occupation, employment in various industries and other labour market information.

Contact: Department of Industry, Research and Analytical Services (902) 368-4240

#### 4.2.11 Craft Production Co-operative Assistance Program

This program is intended to assist individual artisans to operate as a group in order to enter new markets. The program is also intended to encourage production oriented groups through which individual craftspeople will find product development and marketing support.

Eligibility: This assistance is available to groups of 15 or more who are involved in the craft industry. The charter of the co-operative or group must indicate that objectives of the co-operative include the production of crafts for sale and assisting its members to receive incomes from the sale of crafts.

Contact: Prince Edward Island Development Agency, Marketing Division, West Royalty, Industrial Park, Charlottetown, Prince Edward Island, C1E 1B0 (902) 566-4222



4.2.12 Craft and Cultural Industries Support Services

Purpose: Assistance to groups or individuals for a range of services aimed at improving the income potential from their products or services. Specific areas for support may include: management training, business counselling, design specialists, workshops, extension courses, booth displays and exhibitions. Support will be offered as part of the general business extension service of the Division and required services will be identified through ongoing consultation with individual clients and organizations.

Eligibility: Any craft or cultural industry operator or association may apply for assistance.

Contact: As above.

4.2.13 Cultural Product Development Fund

Purpose: To stimulate the development of Island products, thereby strengthening local cultural enterprises, contributing to provincial economic development, and creating increased demand for artistic creations.

Eligibility: Applications for assistance are invited from existing cultural enterprises that have been in business for at least one year. Applicants must demonstrate the ability to produce quality, marketable, cultural products. Cultural products are defined as published books and periodicals, film productions, sound recordings, stage plays, and certain other reproducible forms of cultural expression. Only non-capital development costs are eligible for assistance. Assistance is available to secondary producers only (publishers, film companies, etc.). Assistance to primary cultural producers (artists), is available through the PEI Council of the Arts and other programs of the Department of Community and Cultural Affairs. Priority will be given to projects that will contribute to the long term viability of the cultural enterprise making application.

Contact: Cultural Affairs Division, Department of Community and Cultural Affairs, PO Box 2000, Charlottetown, Prince Edward Island, C1A 7N8 (902) 892-0311

4.2.14 Craft and Cultural Industry Grant Program

Purpose: To encourage and accelerate desirable development within the craft and cultural industries, with the aim of developing and maintaining year-round employment opportunities in the province.

Eligibility: Applicants must be or have the potential to become a full-time artisan or to operate a cultural industry. Eligible cultural industries include publishing, film making or video production and sound recording. Applicants must provide evidence of the capability of producing a product in sufficient quantity and of a high enough quality to permit a viable commercial operation. Applicants must provide evidence of market acceptance of product he or she plans to produce. Applicant must earn a minimum of fifty percent of his/her income from the production and sale of craft and/or

cultural products. Application for a grant must be submitted prior to the commencement of the project. Funding shall not be provided for projects already receiving financial support from other provincial or federal programs.

Contact: Prince Edward Island Development Agency, Marketing Division, West Royalty, Industrial Park, Charlottetown, Prince Edward Island, C1E 1B0 (902) 566-4222

#### 4.3 Northwest Territories

##### 4.3.1 Small Business Grants

Purpose: To provide financial assistance in legitimate instances of need for developmental costs and/or extraordinary operating costs toward establishing or maintaining a business.

Contact: Business Service Officer, Economic Development and Tourism, Government of the Northwest Territories, Box 1320, Yellowknife, Northwest Territories, (403) 873-7377

##### 4.3.2 Eskimo Loan Fund

Purpose: Provides bank loan guarantees, loans and contributions to Inuit individuals, groups, co-operatives and majority-owned companies to permit the establishment or expansion of commercial enterprises in the Northwest Territories.

Contact: Eskimo Loan Fund Advisory Board, c/o Department of Economic Development and Tourism, Government of the Northwest Territories, Yellowknife, Northwest Territories

##### 4.3.3 Economic Development Agreement (EDA)

Purpose: To provide a co-operative and co-ordinated approach to the development of human, natural and business resources of the Northwest Territories.

The EDA is broken down by several specific programs:

##### 4.3.3.1 Human Resources Sub-Agreement

Purpose: To help northerners develop the skills required to find work and to participate in community-based economic development. The programs will also help northerners take advantage of business opportunities related to major resource developments.

4.3.3.2 Business Management Development

Purpose: To improve management capabilities. Individuals, groups or associations of employers and local development corporations may apply.

4.3.3.3 Options North

Purpose: To encourage and support native northerners to overcome barriers faced in the wage economy.

Employers, associations, agencies and non-profit organizations who are prepared to establish a counselling project are eligible for funding.

4.3.3.4 Domestic Market Development Sub-Agreement

Purpose: To increase business opportunities, to develop the tourism industry and to help communities prepare economic development plans.

4.3.3.5 Business Assistance

Purpose: To help identify business opportunities and to encourage establishment and expansion of business related to the economic development of the Northwest Territories. Opportunity Identification provides up to 90 percent funding for studies. The Small Business Development Incentive provides up to \$100,000 for the expansion of a Northwest Territories business.

4.3.3.6 Tourism Development

Purpose: To encourage a well-planned and orderly expansion of tourism. Funding is available for regional tourism planning, hospitality and publicity and marketing programs, as well as association support, and support for attractions and events. This program is open to businesses, organizations and travel associations.

Contact: Department of Economic Development and Tourism, EDA Secretariat, PO Box 1030, Yellowknife, Northwest Territories, X1A 2N7 (403) 920-8743

4.3.4 Business Development Contributions

Purpose: To establish, expand and modernize businesses in the Northwest Territories. Contributions may be granted to new or existing businesses for the purchase, installation, renovation, improvement or expansion of equipment or premises. Funding is also available for related feasibility and market studies.

Contact: Area Economic Development Officer, Department of Economic Development and Tourism, Government of the Northwest Territories

4.3.5 Financial Assistance to Business

Purpose: Contributions in financial difficulty and in legitimate cases of need, and to complement existing territorial and federal programs.

Contact: Area Economic Development Officer, Department of Economic Development and Tourism, Government of the Northwest Territories

4.3.6 Business Loans and Guarantees Fund

Purpose: To provide loans and loan guarantees to businesses in the Northwest Territories where the required credit or financial assistance is not available from other sources on reasonable terms and conditions.

Eligibility: New or existing businesses in the Northwest Territories.

Contact: Secretary, Small Business Loans and Guarantees Fund, Department of Economic Development and Tourism, Yellowknife, Northwest Territories.

4.3.7 Special Rural Development Agreement

Purpose: Provides funds and other assistance to projects which create new jobs, increase income and improve living conditions of residents of the Northwest Territories, particularly those of Indian or Inuit ancestry. Eligible projects might include commercial businesses, resource harvesting, training and special measures needed to help people take advantage of job opportunities. For commercial projects, contributions of up to 50 percent of the costs may be provided.

Eligibility: Projects which employ individuals of Indian or Inuit ancestry.

Contact: Co-Secretary, Department of Economic Development and Tourism, Yellowknife, Northwest Territories, X1A 1C0

4.3.8 Venture Capital Program

Purpose: Provides repayment of up to 30 percent of paid-in capital investments in specific communities in the Northwest Territories. Investments must be made in eligible businesses located in the smaller communities.

Eligibility: Venture capital companies which invest in at least two Northwest Territories business enterprises, excluding those involved in banking, finance or oil and gas exploration.

Contact: Chief, Business Development, Division, Department of Economic, Development and Tourism, Yellowknife, Northwest Territories.



4.4 Nova Scotia

4.4.1 Canada/Nova Scotia Technology Transfer and Industrial Innovation Sub-agreement

Purpose: To enable Canada and the province to address the following issues critical to economic growth in Nova Scotia: modernizing existing industries; improving industrial productivity and international competitiveness; expanding the base of advanced technology firms; and upgrading the scientific and engineering workforce. This agreement is between the federal Department of Regional Industrial Expansion and the provincial Departmental of Development.

Other specific information may be found under the following programs relating to this agreement: Modernization and Industrial Innovation; Technology Transfer; Planning, Opportunities Research and Development.

Contact: Nova Scotia Department of Development, 5151 George Street, PO Box 519, Halifax, Nova Scotia, B3J 2R7 (902) 424-8920

4.4.2 Canada/Nova Scotia Tourism Subsidiary Agreement

Purpose: This agreement was established by the federal Department of Regional Industrial Expansion and the provincial Department of Tourism. Its purpose is to strengthen the international competitiveness of Nova Scotia's tourist industry. Proposals eligible for assistance under the agreement, must demonstrate that they will: appeal to international/interprovincial tourists; contribute to the development of internationally competitive tourism destinations and products; be designed to encourage direct investment by, and employment and income, in the private sector; and be economically viable.

For more specific information on this agreement, ask for information under any of the following programs: Professional Enhancement Program; Studies and Infrastructure; Destination; Target Marketing; Package Tour Development; Advertising and Promotion.

Contact: Department of Regional Industrial Expansion, 1496 Lower Water Street, Halifax, Nova Scotia, B3J 2J9 (902) 426-6790, or Nova Scotia Department of Tourism

4.4.3 Black Business Opportunity Program

Purpose: Provides financial aid to black people living in Nova Scotia who own or operate businesses not eligible for funding under other government programs.

Eligibility: Black people who are establishing, expanding, or modernizing any commercial undertaking in primary resources, processing, manufacturing, or the provision of services.

Contact: Business and Technical Services Division, Department of Development (902) 424-4243



4.4.4 Disabled Entrepreneurs Assistance Program

Purpose: Provides assistance to disabled persons for the establishment, expansion and modernization of business operations in Nova Scotia.

Eligibility: Any commercial undertaking engaged in processing, manufacturing or service industries; any business operation owned and operated by a disabled person in Nova Scotia, which provides direct employment opportunities.

Contact: Business and Technical Services Division, Department of Development  
(902) 424-4243

4.4.5 Industrial Commission Support Program

Purpose: To encourage local participation in industrial and commercial development. It does this through sharing in the operational and promotional cost of provincially incorporated industrial commissions in need of financial assistance.

Contact: Business and Technical Services Division, Department of Development  
(902) 424-4243

4.4.6 Industrial Estates Limited (IEL)

Purpose: A Nova Scotia crown corporation created to support the establishment and expansion of manufacturing industries throughout the province. The minimum loan financing available under this program is \$250,000.

Contact: Industrial Estates Limited, World Trade and Convention Centre, 1800 Argyle Street, Halifax, Nova Scotia, B3J 1M5 (902) 425-6331

4.4.7 Industrial Incubation Program

To encourage the start-up of new manufacturing and processing enterprises in Nova Scotia, Industrial Estates Limited has constructed a number of multi-tenant industrial malls throughout Nova Scotia.

Eligibility: Manufacturers of products not already made in Nova Scotia, who will: introduce new technology to manufacture products already being made in Nova Scotia; expand their enterprise from "cottage" status to commercial production; or establish any potentially viable business in the secondary sector.

Contact: Industrial Estates Limited, World Trade and Convention Centre, 1800 Argyle Street, Halifax, Nova Scotia, (902) 425-6331

4.4.8 Industrial Loan Program

Loans are available to finance fixed assets for processing businesses, fish plants, lobster pounds, saw and planing mills, and other industries related to the natural resources.

Contact: Nova Scotia Resource Development Branch (902)424-5670

4.4.9 Industrial Mall Municipal Tax Rebate Program

Available to tenants of industrial malls owned by the Nova Scotia Department of Development, Industrial Estates Limited and municipal development agencies in the province. Provides tax rebates to qualified mall tenants.

Contact: Business and Technical Services Division, Department of Development (902)424-4243

4.4.10 Mainstreet Program

Purpose: To help the downtown areas of Nova Scotia communities continue to be the centre of economic and social activities.

Eligibility: A community must have a Business Improvement District Committee (Commission) and make appropriate application to the program by the set deadline.

Contact: Employment Opportunities Branch, Department of Development (902)424-2720

4.4.11 Ocean Industries Innovation Centre

Purpose: To help small businesses establish or expand in innovative directions that relate to ocean industries other than mineral exploration/extraction, fishing, primary fish processing and boat/ship building.

Eligibility: Any entrepreneur or small manager with an innovative product or service that relates to ocean industries may apply for assistance in any area other than capital costs or equity. Level of financing is determined according to the nature of the project but will rarely be more than 75 percent.

Contact: Ocean Industries Innovation Centre (902)414-6764.

4.4.12 Municipal Taxation Assistance Program

Purpose: New or expanding ocean industry firms may be reimbursed for municipal taxes paid during the first four years of operation as follows: first two years - 75 percent of municipal taxes paid; third year - 50 percent of municipal taxes paid; fourth year - 25 percent of municipal taxes paid.

Contact: Market Development Centre (902)424-8060

4.4.13 Product Development Management Program (PDMP)

Purpose: Funded jointly by the province and the federal government, this program is designed to provide broad support for business management development within essential phases of the product development cycle: research and development marketing, engineering, applied technology, design, sales promotion and distribution.

Contact: Market Development Centre (902) 424-8060

4.4.14 Rural Industry Program (RIP)

Purpose: A grant incentive program which assists the development of industry in rural Nova Scotia.

Eligibility: Individual companies or co-operatives operating in Nova Scotia whose business activities will provide jobs for rural Nova Scotians. Businesses must be involved in processing, manufacturing, or a selected service industry.

Contact: Business and Technical Services Division, Department of Development (902) 424-4243

4.4.15 Small Business Development Corporation (SBDC)

Purpose: Financing available to small enterprises wishing to start up, expand or modernize.

Eligibility - Any proprietorship, partnership co-operative, or corporation with: less than \$2 million annual sales; fewer than 50 employees; requiring more than \$5,000 but less than \$250,000.

Contact: Small Business Development Corporation (902) 424-4920

4.4.16 Tourism Industry Loan Program

Purpose: Loans are available to finance new construction or expansion of existing facilities based on the fixed assets of motels, hotels, campsites, restaurants and certain recreation facilities related to tourism.

Contact: Nova Scotia Resource Development Board (902) 424-5670

4.4.17 Trade Expansion Program (TEP)

Purpose: To encourage Nova Scotia manufacturers to seek and realize national and international business opportunities not eligible for assistance under federal marketing programs.

Eligibility - The applicant must be a Nova Scotia manufacturer, processor, or selected service industry. The project is likely to bring new business or expose the firm to new techniques in marketing, technology or design.

Contact: Market Development Centre, Department of Development (902) 424-8060

#### 4.4.18 Venture Capital Corporation

Purpose: The province ensures the availability of risk capital by providing financing incentives to venture capital corporations that provide risk capital and management assistance to small businesses.

Eligibility: In order to form a venture corporation, 52 percent of the major shareholders must be Nova Scotian residents. Investors must form a Venture Capital Corporation (VCC) with paid-in equity between \$25,000 and \$5,000,000. At least one shareholder (or group of affiliated shareholders) must own 30 percent of the Venture Capital Corporation shares of \$150,000 equity.

Eligibility: The eligible sectors for investment are manufacturing and processing, tourist activities, mineral exploration, printing and publishing, research and development, farming, fishing and aquaculture, computer services, shipping and transportation, geological, geographical and seismic services.

Contact: Inter Corporations Board, Department of Development (902) 424-4087

#### 4.4.19 Women's Entrepreneurial Development Program

This program is a pilot project designed to provide an opportunity for women in business to develop their entrepreneurial and technical skills in planning, marketing and operational aspects of business.

Eligibility - Available to any woman who is involved in a new or existing small business in Nova Scotia if she: actively participates in the ongoing management and decision-making; and holds a significant equity position.

Contact: Business and Technical Services Division, Regional Offices Branch (902) 424-4243

#### 4.4.20 Youth Entrepreneurial Skills Program (YES)

Provides start-up money under the Youth Entrepreneurial Skills Program, which is designed to create new businesses operated and owned by youth.

Eligibility: Applicants must be between the ages of 16 and 24. Proposed projects must be new businesses to be located in Nova Scotia and expected to provide either a marketable product or service.

Contact: Employment Opportunities Branch, Department of Development (902) 424-2720



4.4.21 Consulting Assistance Program (CAP)

Purpose: Helps small business benefit from professional advice, e.g. management consultants, accountants and experienced business people.

Eligibility: Any business operator faced with a difficult situation that may be eliminated by competent advice.

Contact: Business and Technical Service Division, Department of Development  
(902) 424-4243

4.5 Manitoba

4.5.1 Communities Economic Development Fund

Purpose: Assistance from the fund is usually in the form of a term loan to help establish or expand businesses. The fund will set the rate of repayment to suit the needs of individual borrowers. The fund also helps community development corporations. Local ownership and control of the business applying for aid will be considered of prime importance. The fund provides technical and other assistance for loan applicants, in accordance with the specific requirements of each applicant and business. The fund may provide assistance to businesses eligible for provincial and federal programs. The fund also participates in the "packaging" of projects in co-operation with other agencies and programs.

Eligibility: All types of small businesses, from manufacturing to service industries, are eligible for assistance. Assistance is determined on the basis of each applicant's requirement.

Contact: General Manager, Communities Economic Development Fund, 1800-155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 949-1844

4.5.2 Beef Stabilization and Marketing Plan I - Cash Advances

Purpose: The Beef Stabilization and Marketing Plan I - Cash Advances Program provides financing for Manitoba beef producers and owners of custom feedlots who desire to raise their calves on the farm to a stocker or slaughter weight.

Eligibility A Manitoba producer, 18 years of age or older and principally occupied in farming, must be enrolled in the Manitoba Beef Stabilization and Marketing Plan and must have the facilities, inventory, and/or financial resources to raise beef calves to a stocker or slaughter weight to be eligible for financing.

Contact: Manitoba Agricultural Credit Corporation, 7th Floor, 125 Garry Street, Winnipeg, Manitoba, R3C 3P2 (204) 947-3244

4.5.3 Co-operative, Corporate and Partnership Guaranteed Loans

Purpose: To provide capital for farmers' operations through a bank or credit union without the borrower having to provide securities.



Eligibility: Co-operatives, corporations and partnerships are eligible. The terms and conditions are set by the corporation which guarantees the total loan. The terms and conditions vary from time to time.

Contact: As above.

4.5.4 Comprehensive Refinancing

Purpose: This program provides comprehensive refinancing for farmers. It also provides refinancing for younger producers and those in financial distress.

Eligibility and Assistance - MACC will provide debt consolidation loans of up to \$200,000. To qualify, an individual must be a resident of Manitoba, and be a full-time farmer, with net worth under \$185,000. The program is also available to partnerships and small farm corporations that are in financial difficulty.

Contact: As above.

4.5.5 Direct Loans - Corporate, Co-operative and Partnership

Purpose: The Corporate, Co-operative and Partnership Direct Loans are designed to establish and develop multiple-owner farm enterprises for all conventional farming operations, including those farming operations relating to feedlots and vegetable storage facilities.

Contact: As above.

4.5.6 Guaranteed Operating Loan

Purpose: This program guarantees new lines of credit for operating loans by lending institutions made to farmers, including fish and tree farming.

Eligibility - To be eligible, Manitoba residents principally occupied in agriculture must have at least 20 percent equity in their operation at the time of loan approval.

Contact: As above.

4.5.7 Specific Comprehensive Guaranteed Loans

Purpose: This program guarantees loans for land, livestock, machinery, permanent improvements, debt consolidation and operating capital improvements to Manitoba residents principally occupied in agriculture.

Contact: As above.

4.5.8 Stocker Program

Purpose: A producer with the feed and facilities to raise cattle may obtain a loan from the MACC to purchase steer stocker calves.

Contact: As above.

4.5.9 Youth Business Start

Program Description

Purpose: To encourage young Manitobans to consider operating a business in Manitoba as an alternative to entering the traditional labour market. It offers financial assistance and business advice. Applicants must be between 18 and 24 years of age at the time of application, with preference being given to Manitoba residents.

Contact: Manitoba Employment Services and Economic Security, 114 Garry Street, Winnipeg, Manitoba, R3C 1G1 (204) 945-3556

4.5.10 Direct Loans - Intermediate-Term

Purpose: This program will provide direct loans (intermediate-term) to Manitoba residents principally occupied in farming, including fish, fur and tree farming for machinery, livestock and permanent improvements.

Contact: Manitoba Agricultural Credit Corporation, 7th Floor, 125 Garry Street, Winnipeg, Manitoba, R3C 3P2 (204) 947-3244

4.5.11 Direct Loans - Long Term

This program will provide direct loans (long-term) for land, livestock, machinery, permanent improvements and debt consolidation to those Manitoba residents principally occupied in agriculture.

Contact: Manitoba Agricultural Credit Corporation, 7th Floor, 125 Garry Street, Winnipeg, Manitoba, R3C 3P2 (204) 947-3244

4.5.12 Beef Stabilization and Marketing Plan 3 - Facility and Product Improvements

Purpose: The Facility and Product Improvements Program is part three of the Beef Stabilization and Marketing Plan, designed to provide term loans to producers to construct or make improvements to buildings and feed lots. It may also be used to buy farm equipment.

Eligibility: A producer must be enrolled in the Manitoba Beef Stabilization and Marketing Plan, be 18 years of age or over, principally occupied in farming, and residing in Manitoba.

Contact: Manitoba Agricultural Credit Corporation, 7th Floor, 125 Garry Street, Winnipeg, Manitoba, R3C 3P2 (204) 947-3244

4.5.13 Young Farmer Interest Rebate

Purpose: This program will provide young farmers (aged 18 to 39 inclusive) with an interest rebate when they obtain a Direct Long-Term Loan for the expansion or reorganization of their farming operations.

Contact: Manitoba Agricultural Credit Corporation, 7th Floor, 125 Garry Street, Winnipeg, Manitoba, R3C 3P2 (204) 947-3244

4.5.14 The Venture Corporation of Brandon and District

Purpose: Offers financial assistance to new and expanding businesses.

Eligibility: The principal criteria are as follows: Job creation - as a rule of thumb, there should be one job created per \$7,000.00 of loan requested; Equity - an applicant should have 10 percent of the total cost of the venture. The corporation will not provide 100 percent financing for any project, but rather will provide financing for part of the project, the remainder being financed through a chartered bank or other source. There is no stipulation as to what part of the project the funds are used for.

Contact: Venture Corporation of Brandon and District, 37-11th Street, Brandon, Manitoba, R7A 4J2 (204) 726-1513 or (204) 726-1582

4.5.15 Triple S Investments Corporation

Purpose: Term loan financing and equity investment funds for new, existing or expanding businesses that will contribute to local economic development. Financing is available up to a maximum of \$75,000 per project per year. There are no set criteria limiting what the funds may be used for. Each project is evaluated on its own merits - viability, repayment ability, security and management.

Contact: Managing Director, Triple S Investments Corporation, 200 Eaton Avenue, Selkirk, Manitoba, R1A 0W6 (204) 482-4775

4.5.16 Western Transportation Industrial Development Program

Purpose: To help businesses (especially new manufacturers in western Canada) take advantage of the economic opportunities resulting from the decision to expand the western railway system. The program provides financial assistance to suppliers of railway and resource development projects, to food and agricultural processors, to industrial diversification projects and to related research and development.

Contact: Applications should be sent to the DRIE office in the province where the project is proposed.

4.5.17 Special Agricultural and Rural Development Act (ARDA)

Purpose: To help residents (especially native people) of remote and northern areas to improve their economic circumstances.

Eligibility: Cost-sharing agreements have been signed between Manitoba, Saskatchewan, British Columbia, the Yukon and the Northwest Territories.

Contact: Nearest DRIE office

4.5.18 Canada/Manitoba Special ARDA and Development Services

Purpose: An agreement between the Government of Canada and the province of Manitoba, to improve the incomes, employment opportunities and standards of living of residents who are of Indian ancestry.

Approved projects may include expenditures for the establishment, acquisition, expansion or modernization of any commercial undertaking which uses primary resources for processing, manufacturing or providing services.

Contact: Department of Indian and Northern Affairs, Manager, Special ARDA Agreement Branch, or Manager, Development Services Branch, Room 920, Woodsworth Building, 405 Broadway Avenue, Winnipeg, Manitoba, R3C 3L6 (204) 945-2535 (Special ARDA) or 945-2525 (Development Services)

4.5.19 Canada/Manitoba Subsidiary Agreement on Tourism Development (ERDA)

Purpose: To stimulate the development of internationally competitive tourism in Manitoba through the development of major tourist attractions, events and resort facilities.

4.5.19.1 Canada/Manitoba Market Expansion Program (Tourism)

Purpose: To expand international and interprovincial markets for travel to Manitoba. High priority will be given to the development of selected destination areas and specialty markets.

Contact: Manager, Administrative Office, Manitoba Business Development and Tourism, Canada/Manitoba Tourism Agreement, PO Box 90, 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-4848

4.5.19.2 Canada/Manitoba Private Tourism Resorts Attractions and Facilities Program

Purpose: To aid the development of private tourism resorts, attractions and facilities. Projects under this program will be of two types: tourism investment incentives to private sector applicants may be provided for the development and expansion of high quality resorts, related facilities and attractions; and assistance for projects proposed by Canada, Manitoba or municipalities for selected development and expansion/modernization of facilities serving specialty markets.

Eligibility: Aid to private sector applicants will vary with the nature of the project and could be in a repayable and/or non-repayable form. It will be subject to conditions being met by the applicant.



Contact: Manager, Administrative Office, Manitoba Business Development and Tourism, Canada/Manitoba Tourism Agreement, PO Box 90, 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-4848

4.5.19.3 Canada/Manitoba Rural Attractions Program (Tourism)

Purpose: Provides direct grants for projects proposed and undertaken by public sector and not-for-profit organizations. The assistance will be subject to conditions being met by the applicant. Proposed projects located in destination areas must normally conform to a clustering concept by being near other tourism facilities.

Contact: Manager, Administrative Office, Management Business Development and Tourism, Canada/Manitoba Tourism Agreement, PO Box 90, 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-4848

4.5.20 Canada/Manitoba Community/Regional Economic Development Planning Program

Purpose: Northern residents can receive funding to develop project proposals which lead to increased economic development. The program will provide funds to undertake and develop economic project proposals/analyses, feasibility studies, market research, business development services, organizational development and support, and technical consulting (architectural and engineering design) or professional services (legal, financial, managerial).

Contact: Agreement Co-ordinator, Northern Affairs, 200 - 500 Portage Avenue, Winnipeg, Manitoba, R3C 3X1 (204) 945-2959

4.5.21 Manitoba Drilling Incentive Program

Purpose: Provides operators of new wells with a royalty- and tax-free "holiday income" depending on oil price and the well's location, depth, producing formation and qualifying credits from previous dry holes.

Contact: Petroleum Resource Analyst, Energy and Mines, 555 - 330 Graham Avenue, Winnipeg, Manitoba, R3C 4E3 (204) 945-6315

4.5.22 Business/Community Chec Loan Program

Purpose: To provide loans for energy conservation. The loans will fund retrofit work where the potential energy savings are sufficient to repay the loan within five years. The applicant will receive the full benefit of the savings once the loan has been repaid.

Eligibility: Manitoba small businesses, institutions, and non-profit organizations.

Contact: Business Chec and Community Chec Coordinator, Energy and Mines, 555 - 330 Graham Avenue, Winnipeg, Manitoba, R3C 4E3 (204) 945-2693



#### 4.5.23 Winnipeg Core Area Small Business Support Services

Purpose: To encourage new investment from merchants in designated older commercial areas. In all cases, a level of private investment will be a prerequisite for assistance in property improvement. This program may also include direct financial support for the establishment or expansion of qualifying small businesses in designated Neighbourhood Main Streets.

Contact: Public Affairs, Winnipeg Core Area Initiative, 124 King Street, Winnipeg, Manitoba, R3B 1H9 (204) 943-0783

#### 4.5.24 Winnipeg Core Area Exchange District Redevelopment

Purpose: To increase the economic vitality of the Exchange District by encouraging entrepreneurs to invest in the rehabilitation of heritage buildings for commercial, cultural, and residential use.

Contact: Public Affairs, Winnipeg Core Area Initiative, 124 King Street, Winnipeg, Manitoba, R3B 1H9 (204) 943-0783

#### 4.5.25 Development Agreement Program

Purpose: To promote significant industrial development in Manitoba. The program provides financial and other types of assistance to firms in the form of loans, loan guarantees, equity investment, training cost assistance, industrial development hydroelectric rate grants during the start-up period, etc. In addition, the branch will work with other departments to provide training support, such as the development of special courses/programs, or other kinds of support which may be needed.

Eligibility: Manufacturing or processing firms; the program's emphasis is on new firms investing in the province.

Contact: Industry Branch, Manitoba Industry, Trade and Technology, 4th Floor, 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-2456.

#### 4.5.26 Feasibility Study Assistance

Purpose: To provide short-term, shared funds to offset the costs of feasibility studies. These may include restructuring proposals, market research, financial analysis, location assessment, engineering support or product development. Cost-sharing may consist of fees for external consultants, technical research and support staff, etc.

Eligibility: Major Manitoba companies or out-of-province investors considering business expansion in the Province.

Contact: As above, 7th Floor 204) 945-2470.

4.5.27 Venture Capital Program

Purpose: To stimulate the flow of new equity capital and managerial expertise to Manitoba small businesses. The province and private investors establish small, independently owned and operated venture capital companies. The province provides 35 percent of the capital, the private investor 65 percent. The funds are invested in the equity of Manitoba companies.

Eligibility: Manitoba businesses with less than 150 employees. At least 75 percent of wages and salaries must be paid toward Manitoba operation. Applies to select business sectors.

Contact: Venture Capital Program, 1503 - 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-2019

4.5.28 Feasibility Assistance for Small Manufacturers

Purpose: To encourage the establishment of well-planned new firms and the growth of existing companies. The program shares up to 50 percent of the costs of employing private consulting services.

Eligibility: Small Manitoba manufacturing and processing firms.

Contact: As above. (204) 945-2008

4.5.29 Design Assistance for Small Projects

Purpose: To assist Manitoba companies to obtain qualified design services to improve products, packaging and graphic design. The program covers up to 50 percent of design costs to a maximum of \$1,000.

Eligibility: Manitoba manufacturers and processors.

Contact: Manitoba Design Institute, 1329 Niakwa Road, Winnipeg, Manitoba, R2J 3T4 (204) 945-2468

4.5.30 Counselling Assistance to Small Enterprises

Purpose: For rural clients; covers 50 percent of the cost of counselling fees.

Eligibility: Any proprietorship, partnership or limited company with no more than 75 employees operating in rural Manitoba.

Contact: Winnipeg Business Development Centre, 1329 Niakwa Road, Winnipeg, Manitoba, R2J 3T4 (204) 945-7628

4.5.31 Investment Tax Credit for Manufacturing

Purpose: For corporations which acquire approved machinery or equipment or make other qualified expenditures for the purpose of manufacturing or processing goods for sale or lease; a six percent credit on the first \$15,000 of Manitoba income tax payable and one-half of any excess over that amount.

Eligibility: Individual manufacturing or processing proprietorships or corporations.

Contact: Federal/Provincial Relations, Department of Finance, Legislative Building, 450 Broadway Avenue, Winnipeg, Manitoba, R3C 0V8 (204) 945-3757

4.5.32 Strategic Research Support Program

Purpose: Provides grants and research contracts in the following broad technological areas: manufacturing processes and materials technology, resources/energy technology, electronic information/communication technology, and, food production and processing technology.

Eligibility: Grants - researchers/academic staff associated with universities or industry. Contracts - organizations undertaking research and development activities.

Contact: Strategic Research Support Program, Manitoba Industry, Trade and Technology, 214 - 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-4820

4.5.33 Manufacturing Adaptation Program

Purpose: To assist small manufacturing and processing firms to adapt high technology to their operations to increase productivity, quality, competitiveness and exports.

Eligibility: All small businesses in the manufacturing or processing sectors with fewer than 50 employees and less than \$3 million annual sales. The business must be export-oriented or involved in interprovincial trade, or planning to do so.

Contact: Program manager, Small Business Development, 501 - 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8

4.5.34 Locational Assistance

Purpose: To provide professional advice and direction in selecting appropriate industrial sites, finding commercial properties and determining service requirements. Comprehensive information searches examine such factors as utility rates, freight rates, taxation, building codes, provision of funds by federal, provincial, municipal or joint sources, etc.

Contact: As above.

4.5.35 Export Consulting Assistance

Purpose: To provide expert advice to Manitoba firms, including export market identification, export planning, pricing, tariffs, shipping, etc.

Contact: Trade Branch, Manitoba, Industry, Trade and Technology, 5th Floor, 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-2466

4.5.36 Infotech

Purpose: To support the development of a software and educational courseware industry in Manitoba and to provide support to technology pilot projects in schools and offices and in public areas.

Contact: Infotech Resources Centre, 1970 Ness Avenue, Winnipeg, Manitoba, R3J 0Y9

4.5.37 Industrial Technology Centre

Purpose: To give business access to a wide range of facilities, equipment and specialized technical services. The centre has skills in biotechnology, chemical engineering, computer-aided engineering, electrical and electronics engineering, mechanical engineering and metallurgy and material science.

Contact: Industrial Technology Centre, 1349 Niakwa Road, Winnipeg, Manitoba, R2J 3T4 (204) 945-6000

4.5.38 Consulting Assistance

Purpose: The department offers a variety of programs designed to provide information and consulting assistance to small and medium-sized businesses.

Eligibility: Any Manitoba manufacturing, service, retail or tourism business with fewer than 75 employees and less than \$3 million in annual sales.

Contact: Winnipeg Business Development Centre, 1329 Niakwa Road, Winnipeg, Manitoba, R2J 3T4 (202) 945-7628

4.5.39 Entrepreneurial Investment and Immigration Program

Purpose: To promote and stimulate increased foreign investment in Manitoba. The program reviews applications for entrepreneurial immigration to Manitoba; advises on industrial development investment proposals; determines export sales opportunities for Manitoba products and services in foreign markets; and maintains an office in Hong Kong to serve Manitoba's investment and trade interests.

Contact: (204) 945-2435

4.5.40 Manitoba Health Care Initiative

Purpose: To develop export products in health care and to replace imports. A number of financial and other forms of assistance are available to support research and development and new project start-up.



Eligibility: Companies intent on developing and commercializing health care products.

Contact: Health Industry Development Initiative, Manitoba Industry, Trade and Technology, 155 Carlton Street, 5th Floor, Winnipeg, Manitoba, R3C 3H8 (204) 945-7492

#### 4.5.41 Technology Commercialization Program

Purpose: To help new and established businesses adapt product or process technologies. The three elements of the program are: new business assistance, which provides office and manufacturing space for entrepreneurs with promising innovative ventures; financial support to assist promising established businesses at the crucial "seed funding" stage; and aid to industry to adapt technology from provincial, federal, university and private laboratories.

Eligibility: Entrepreneurs and companies intent on developing technology for commercial benefit.

Contact: Technology Commercialization Program, Manitoba Industry, Trade and Technology, 9-1329 Niakwa Road, Winnipeg, Manitoba, R2J 3T4 (204) 945-8247

#### 4.5.42 Trade Assistance Program

Purpose: To assist Manitoba exporters. The program provides cost-sharing assistance to firms participating in trade shows outside the Province. The program also supports incoming visits of buyers, agents and distributors. Complements federal export assistance programs.

Eligibility: Manitoba companies.

Contact: Manitoba Business Development and Tourism, 4th Floor, 155 Carlton Street, Winnipeg, Manitoba, R3C 3H8 (204) 945-2456

#### 4.6 Yukon

##### 4.6.1 Canada/Yukon Economic Development Agreement; Canada/Yukon Subsidiary Agreement on Mineral Resources

Purpose: Provides \$3.9 million in funding over four years (1985-89) for programs designed to promote increased mineral exploration and the development of new mines. The programs under the agreement will assist in the discovery of new mineral deposits, improve the efficiency of mineral exploration programs and placer mining activities, and encourage investment in exploration.

Eligibility: Mining companies, prospectors and placer miners may benefit from survey data and results of research.

Contact: Mineral Resources EDA Co-ordinator, Northern Affairs Program, 200 Range Road, Whitehorse, Yukon, Y1A 3V1 (403) 667-3138



4.6.2 Assay Services

Purpose: An assay subsidy service is available for active prospectors. Up to 10 coupons may be obtained from the mining recorder's office, each of which covers 50 percent of the cost of an individual assay.

Contact: Regional Manager, Indian and Northern Affairs, 200 Range Road, Whitehorse, Yukon, Y1A 3V1 (403) 667-3100

4.6.3 Manpower Consultative Services

Purpose: To help Yukon employers in developing and implementing a Human Resource Development plan in order to make more efficient use of the human resources available. Consultative services and some material provided free of charge.

Contact: Manager, Employment Development, Department of Education, Advanced Education and Manpower Branch, PO Box 2703, Whitehorse, Yukon, Y1A 2C6 (403) 667-5129; toll-free (in Yukon) 1-667-5855

4.6.4 Commercial Rate Relief Program

Purpose: Subsidizes electrical costs for non-government commercial enterprises doing less than \$2 million in gross revenues per annum in the Yukon. Funds are provided by the federal government and are administered by the Government of the Yukon.

Contact: Economic Development, Energy and Mines Branch, Government of Yukon, PO Box 2703, Whitehorse, Yukon, Y1A 2C6 (403) 667-5888

4.6.5 Prospectors' Assistance Program

Purpose: To provide prospectors with basic operating expenses, to allow them to carry on active prospecting.

Eligibility: This program is designed primarily for experienced prospectors. Applicants must have completed a recognized prospecting course and have several seasons of prospecting experience, or must be able to pass a test of knowledge of minerals and rocks and basic prospecting techniques.

Contact: Government of Yukon, Economic Development, Mines and Small Business, PO Box 2703, Whitehorse, Yukon, Y1A 2C6 (403) 667-5811

4.6.6 Exploration Incentives Program

Purpose: This program is aimed at individuals, partnerships and junior companies who have no net income from mineral production in Canada and who are not able to write off the full cost of their exploration work. The program will provide a rebate of 25 percent of eligible expenditures for designated exploration projects carried out on valid mineral properties in Yukon, up to \$50,000 per project year to a maximum of \$100,000 per project.

Contact: As above.

#### 4.6.7 Design Studies - Agriculture

Purpose: To promote expansion and development of Yukon's renewable resources by completing studies and inventories which will increase opportunities for viable long-term commercial enterprises. Sub-programs exist for five sectors: agriculture, fisheries, forestry, wildlife, and wilderness recreation ventures.

Contact: Department of Renewable Resources, Government of Yukon, PO Box 2703, Whitehorse, Yukon, Y1A 2C6 (403) 667-5106; or Business Development Office, 2131 Second Avenue, Whitehorse, Yukon, Y1A 1C3 (403) 667-5945; toll-free 1-667-5955

#### 4.6.8 Streetscape Development Program

Purpose: To increase the attraction of the downtown areas of Yukon communities in order to increase expenditures by tourists.

Eligibility: Community groups and/or municipal governments in Watson Lake, Carcross and Haines Junction are eligible for grants from Yukon Tourism.

Contact: Director of Development, Yukon Tourism, PO Box 2703, Whitehorse, Yukon, Y1A 2C6 (403) 667-5449

#### 4.6.9 Yukon Tourism Special Events Program

Purpose: To provide financial aid to organizers and sponsors of events which have significant impact on Yukon tourism and are instrumental in attracting visitors to the Yukon.

Contact: Director, Development Branch, Department of Tourism, PO Box 2703, Whitehorse, Yukon, Y1A 2C6 (403) 667-5633

#### 4.6.10 Opportunities Identification Program

##### Product Description

Purpose: To help eligible applicants determine the feasibility of an economic undertaking. Provides funds to offset the financial risk of developing ideas for new economic activity to the point of proving them feasible. Contributions will not be provided to projects that may be covered by joint federal/territorial programs.

Contact: Department of Small Business, Government of Yukon, PO Box 2703, Whitehorse, Yukon, Y1A 2C6; or Business Development Office, 2131 Second Avenue, Whitehorse, Yukon, Y1A 1C3 (403) 667-5945; toll-free 1-667-5955

#### 4.6.11 Northern Exploration Facilities Program (NEFP)

Purpose: Financial assistance for the construction of access roads to airstrips, helicopter landing pads, small boat docks and seaplane bases in areas where alternative routes are not available or practical.

Eligibility: Persons or companies requesting assistance must be carrying out a bona fide resource development project in an area such as mining, forestry, agriculture and tourism), or a small-scale resource production in the Yukon, or must show reasonable evidence that the area in question has a resource potential. The facility must be available for public use.

Contact: Department of Community and Transportation Services, Government of Yukon, Box 2703, Whitehorse, Yukon, Y1A 2C6 (403) 667-5155

#### 4.6.12 Yukon Energy Alternative Program (YEAP)

Purpose: To provide funding on a cost-shared basis to commercial businesses and other large energy consumers to examine the feasibility of alternative fuel sources of energy management schedules.

Eligibility: Determined by an advisory committee. All projects require the approval of the Minister of the Department of Economic Development.

Contact: Economic Development, Energy and Mines Branch, Government of Yukon, (403) 667-5888

#### 4.6.13 Special ARDA

Purpose: A joint federal-territorial government program to improve income and employment opportunities for Yukoners of native ancestry. Assistance is offered in the following areas: primary producing activities, training, commercial undertakings.

Eligibility: Any Yukon individual, co-operative, community group, society, organization, band or corporation.

Contact: Director, Small Business Branch, Department of Economic Development, Mines and Small Businesses

#### 4.6.14 Yukon Business Loans Program

Purpose: This is a low-interest loan program available to entrepreneurs who wish to try new ventures, as well as to existing businesses who wish to expand their operations.

Eligibility: The business must have gross revenue of less than \$2 million and fewer than 100 employees. It must use the assistance solely for capital costs, and not have made any financial or contractual commitments prior to submitting a preliminary application. The project must be of a commercial or industrial nature and must operate in the Yukon.

Contact: Department of Small Business, Government of Yukon; or Business Development Office, 2131 Second Avenue, Whitehorse, Yukon, (403) 667-5945

4.6.15 Trade Show Participation Program

Purpose: To encourage Yukon businesses to penetrate new markets, to strengthen their market share, and to introduce new products and services. Financial assistance may be provided to qualified Yukon businesses and associations to exhibit at trade shows.

Contact: Department of Small Business, Government of Yukon, PO Box 2703, Whitehorse, Yukon, Y1A 2C6, or, Business Development Office, 2131 Second Avenue, Whitehorse, Yukon, Y1A 1C3 (403) 667-5945 toll-free 1-667-5955

4.7 New Brunswick

4.7.1 Canada/New Brunswick Specific Assistance (Mineral Development)

Purpose: Firms in the business of mining and processing minerals to produce mineral concentrates will be invited to apply for assistance in product marketing and productivity audits. Product marketing projects would include: studies to determine demand and product specifications; economic feasibility studies to investigate whether a firm could compete in a specific market; and market promotion.

Contact: Co-ordinator, Geoscience Data Centre, Geological Surveys Branch, New Brunswick Department of Forests, Mines and Energy, PO Box 6000, Fredericton, New Brunswick, E3B 5H1

4.7.2 Canada/New Brunswick Subsidiary Agreement on Industrial Development

This is a joint federal/provincial initiative made up of the following programs:

4.7.2.1 Canada/New Brunswick Infrastructure Investment Program

Purpose: To encourage private sector investment in site-specific infrastructure.

Eligibility: Any individual, corporation, partnership, co-operative, or association, or trustee or legal representative thereof, carrying on or about to carry on a manufacturing or processing operation or a selected service operation.

Contact: Program Co-ordinator, Industrial Development Sub-Agreement, Department of Commerce and Technology, PO Box 6000, Fredericton, New Brunswick, E3B 5H1 (506) 453-2489

4.7.2.2 Canada/New Brunswick Small Business Proposal Award Program

Purpose: To accelerate the growth of firms and industries in strategic sectors of the New Brunswick economy.

Eligibility: As above.

Contact: As above.



4.7.3 Canada/New Brunswick Subsidiary Agreement on Industrial Innovation and Technology Development

Purpose: The Government of Canada and the province of New Brunswick have assigned a high priority to industrial innovation and technology development as a means of stimulating industrial growth in the province. The agreement consists of five programs: Development Climate and Industrial Support Program provides financial assistance to improve the climate for industrial development; Industrial Diversification provides financial assistance to accelerate the individual investment process; Market and Trade Development provides financial assistance to increase the opportunities for expanded market penetration for New Brunswick products; Product Development Capital alleviates shortages of funds necessary to launch or continue an eligible research and development project by providing repayable interest-free contributions; and Research and Development Investment encourages applied R&D, prototype development, start-ups, expansion or modernization involving new or improved products, processes or services in the field of advanced technology.

Eligibility: Firms engaged in, or about to become engaged, in technology activity within New Brunswick.

Contact: Local DRIE offices.

4.7.4 Industrial Loan Program

Purpose: Provides direct loans or loan guarantees to manufacturers or processors wishing to locate or to expand or modernize existing facilities in New Brunswick.

Contact: Manager, Industrial Promotion, Department of Commerce and Technology, (506) 453-3981

4.7.5 Equity Participation Program

Purpose: Through its crown corporation, Provincial Holdings Ltd. the province offers equity participation to manufacturing industries wishing to establish production facilities in New Brunswick that will make a significant contribution to the economic base of the province.

Contact: As above.

4.7.6 Venture Capital Support Program

Purpose: This program offers interest-free loans made by Provincial Holdings Ltd. to firms which propose to invest in eligible operating companies. This investment is to provide funds for the establishment or expansion, or for working capital needs, of small to medium-sized New Brunswick companies.



Eligibility: Firms engaged in manufacturing and processing; industrial maintenance or repair; knowledge and information development (software, movies), if their products are market-oriented rather than custom-made; tourist attractions and accommodations facilities; aquaculture; and the commercialization of biotechnology.

Contact: As above.

#### 4.7.7 Small Industry Financial Assistance Program

Purpose: Provides grants up to \$75,000 to small industries establishing a new business or modernizing and/or expanding an existing industry.

Eligibility: Estimated capital cost of project must not exceed \$150,000; project must involve activities as outlined in an approved eligibility list; if the firm is already in operation, average sales for the two most recent years of operation must not exceed \$1.5 million per year.

Contact: Director, Small Industry Development, Department of Commerce and Development (506) 453-3890.

#### 4.8 British Columbia

##### 4.8.1 Canada/British Columbia Subsidiary Agreement on Tourism

This is a joint federal/provincial initiative made up of the following programs:

###### 4.8.1.1 Canada/British Columbia Tourism Incentive Program

Purpose: To improve resort facilities and to develop new destination facilities and major commercial attractions. Projects assisted under this program must be able to attract international markets. Projects must show ability to create significant incremental activity that would not occur without program support.

Eligibility: Individuals, companies, local governments, and tourism associations. Crown corporations are not eligible.

Contact: Ministry of Economic Development, 1405 Douglas Street, Victoria, British Columbia, V8W 3C1 (604) 387-0296

###### 4.8.1.2 Canada/British Columbia Industry Assistance Program

Purpose: To help industry associations to conduct research relevant to improvement in the presentation and delivery of the tourism product, and for staging industry development seminars and workshops.

Eligibility: British Columbia tourism industry associations. All applications will be reviewed by the Tourism Industry Association of British Columbia, to ensure provincial consistency and complementarity.

Contact: Department of Regional Industrial Expansion, 235 Queen Street, Ottawa, Ontario, K1A 0H5 (613) 995-5771

4.8.1.3 Canada/British Columbia Research and Opportunity Analysis Program

Purpose: To provide assistance for research to update information about tourism in British Columbia. Emphasis will be placed on the improvement of the data and the analytical base upon which tourism development and market decisions are made. Projects assisted under this sub-program should meet the criteria of Statistics Canada's National Task Force on Tourism.

Eligibility: Tourism industry associations, individual tourism operators, local and regional governments in British Columbia, and the implementing parties to this agreement are eligible applicants.

Contact: Nearest DRIE office.

4.8.1.4 Canada/British Columbia Consortia Promotion Program

Purpose: To promote a group of products and services from a given destination area or from a sector such as skiing or scuba diving. The program supplies 50 percent of eligible costs to a maximum of \$50,000 per project. Minimum project size \$20,000.

Eligibility: A consortium consisting of three or more tourism operations, including accommodation plus at least two of the following: transportation, events, attractions or recreation operations.

Contact: Department of Regional Industrial Expansion, PO Box 49178, Bentall Tower 4, 1101 - 1055 Dunsmuir Street, Vancouver, British Columbia, V7X 1K8 (604) 661-2207

4.8.1.5 Canada/British Columbia New Product Launch Program

Purpose: To market new resorts. International attractions and events assisted are eligible for assistance under this agreement. The operator of a new project will be encouraged to go into consortium promotions as soon as possible.

Eligibility: Private-sector tourism operators with new products; excludes all operations open for more than 12 months at the date of application.

Contact: Department of Regional Industrial Expansion, PO Box 49178, Bentall Tower 4, 1101 - 1055 Dunsmuir Street, Vancouver, British Columbia, V7X 1K8 (604) 661-2207

4.8.1.6 Canada/British Columbia Market Place Promotion Program

Purpose: To help organize, operate and promote a new business from non-Canadian markets. These marketplaces must be targeted to the travel trade and travel influencers.

Contact: Department of Regional Industrial Expansion, PO Box 49178, Bentall Tower 4, 1101 - 1055 Dunsmuir Street, Vancouver, British Columbia, V7X 1K8 (604) 661-2207

4.8.2 Special ARDA (Agricultural and Rural Development Act)

Purpose: To aid residents of remote and northern areas (in particular those of native ancestry) in improving their economic circumstances, specifically: assistance in developing plans for projects and in putting together the information necessary to complete an application; financial assistance towards the capital costs of new or expanding business enterprises operated by or employing people of native ancestry; financial assistance to groups of primary producers engaged in hunting, trapping, fishing and forestry.

Contact: Nearest DRIE office.

4.8.3 Canada/British Columbia Tourist Industry Development Subsidiary Agreement

Purpose: The Canada/British Columbia Subsidiary Agreement on Tourist Industry Development, a component of the Economic and Regional Development Agreement, is designed to stimulate tourist industry development mainly through undertakings in market and product development and industry support. Financial assistance will be made available for projects through the following programs:

International Market Development: Eligible projects will include new product launch, target market research, consortia promotion, trade and consumer shows, market places, conference and convention marketing. This program will also assist the design, development, promotion and merchandising of package tours.

Product Development: Projects under this program will foster the creation or improvement of existing destination facilities and major commercial attractions (i.e. accommodation, dining facilities, man-made and natural attractions, recreational services).

Tourism Industry Support: This program will provide assistance for the continued upgrading of industry knowledge and skills in both management and operations.

Eligibility: Individuals, companies, municipal governments, private tourism operators, consortia of tourism operators and tourism industry associations. Eligible projects include the development of printed or audiovisual training manuals and courses in such areas as marketing, finance and personnel management; seminars and workshops; and research on matters of direct relevance to economic growth.

Contact: Department of Regional Industrial Expansion, PO Box 49178, Bentall Tower 4, 1101-1055 Dunsmuir Street, Vancouver, British Columbia, V7X 1K8 (604) 666-0434 (International Market Development)

4.8.4 Canada/British Columbia Resource Industries Modernization Program

Purpose: A federal/provincial program under the Industrial Development Subsidiary Agreement which is jointly funded by DRIE. This five-year, \$35-million program provides contributions (usually loans) for the acquisition, adaptation and application of technology which will improve competitive performance or enhance market access.

Eligibility: Existing incorporated companies, partnerships or joint ventures, other than federal or provincial crown corporations or their subsidiaries, engaged in or about to engage in manufacturing or processing based directly upon a primary resource.

Contact: Ministry of Economic Development, 770 Pacific Boulevard South, Vancouver, British Columbia, V6B 5E6 (604) 660-1152

4.8.5 Guaranteed Loan Program

Purpose: To increase the availability of credit through chartered banks and credit unions for medium-risk farm businesses.

Eligibility: Farm operators, including individuals, legally constituted partnerships, corporations, or co-operatives.

Contact: Ministry of Agriculture and Fisheries, Agricultural Finance Branch, Parliament Buildings, 808 Douglas Street, Victoria, British Columbia, V8W 2Z7 (604) 387-5121

4.8.6 Agricultural Land Development Assistance

Purpose: To provide low-cost, long-term loans to farmers for permanent improvements to land classified as farmland.

Contact: Ministry of Agriculture and Fisheries, Agricultural Finance Branch, Parliament Buildings, 808 Douglas Street, Victoria, British Columbia, V8W 2Z7 (604) 387-5121

4.8.7 Demonstration of Agricultural Technology and Economics (DATE)

Purpose: To demonstrate the effective use of agricultural technology and/or economics to solve problems confronting British Columbia farmers and/or to illustrate means of increasing net farm income. This program makes funds available for staff-supervised projects devoted to increasing the net income of farmers in British Columbia. Every project funded through DATE is supervised by a member of the British Columbia Ministry of Agriculture and Fisheries.

Contact: Ministry of Agriculture and Fisheries, Agricultural Finance Branch, Parliament Buildings, 808 Douglas Street, Victoria, British Columbia, V8W 2Z7 (604) 387-5121



#### 4.8.8 Small Business Venture Capital Programs

Purpose: To encourage increased flows of equity capital to small businesses. Provides investors with a 30 percent tax credit which can be used to offset British Columbia income tax.

Eligibility: Investors supply funds to Venture Capital Corporations which in turn provide equity capital to small businesses in manufacturing/processing, research and development, certain tourism activities, and aquaculture. Corporations are established under the guidelines of the "Small Business Venture Capital Act" and must comply with all registration requirements.

Contact: Ministry of Economic Development, 770 Pacific Boulevard South, Vancouver, British Columbia, V6B 5E6 (604) 660-1152; toll-free 1-800-663-0648 (in British Columbia)

#### 4.8.9 Small Manufacturers Incentive Program

Purpose: To encourage the establishment, modernization or expansion of companies in manufacturing, processing and advanced technology industries through the provision of interest free loans for a term of three years.

Eligibility: Small projects whose eligible costs do not exceed \$250,000.

Contact: Ministry of International Trade and Investment, Suite 315, Robson Square, Vancouver, British Columbia, V6Z 2C5 (604) 660-4567 TELEX: 04-55459

#### 4.8.10 Industrial Development Assistance Program

Purpose: To encourage the establishment, modernization or expansion of companies in manufacturing, processing and advanced technology, by providing loans of up to one-third of eligible costs at half the normal prime rate for three years, with the first six months interest free.

Eligibility: Projects with a maximum project size of \$2 million.

Contact: British Columbia Development Corporation, 272-200 Granville Street, Vancouver, British Columbia, V6C 1S4 (604) 689-8411; toll-free 1-800-663-0733 (in British Columbia)

#### 4.8.11 Aquaculture Incentive Program

Purpose: To encourage the establishment and expansion of companies involved in intensive cultivation and harvesting of finfish, shellfish and aquatic plants through interest-free loans for a five-year term covering 50 percent of eligible costs to a maximum of \$100,000.

Eligibility: Eligible costs must not exceed \$300,000. Maximum company size: 75 employees, \$2 million in total assets.



Contact: Ministry of Economic Development, 770 Pacific Boulevard South, Vancouver, British Columbia, V6B 5E6 (604) 660-1152; toll-free 1-800-663-0648 (in British Columbia)

#### 4.8.12 Resource Industries Value-Added Program

Purpose: To assist new or existing companies to establish or expand operations that will produce specialty products based on the province's natural resources, or use underexploited resources. Assistance is in the form of low interest loans, up to a maximum of 50 percent of eligible projects costs for the acquisition of plant or equipment. Loans will have flexible terms and conditions.

Eligibility: For projects with over \$2 million in capital costs.

Contact: As above.

#### 4.8.13 Industrial Diversification Program

Purpose: To encourage growth in the manufacturing industries outside of the traditional resource sector which can accelerate technological advancement, create long-term employment and aid in the diversification of British Columbia's industrial base. Assistance is available in two forms: loans from the federal government to a maximum of 30 percent of capital costs; loans from the province up to a maximum of 50 percent of capital costs.

Eligibility: Companies engaged in secondary or tertiary manufacturing, processing and advanced technology, especially the latter. Eligible project costs must not be less than \$2 million.

Contact: As above.

#### 4.8.14 Low-Interest Loan Assistance Program

Purpose: Provides low-interest loans to assist manufacturing or processing and related service industries purchase fixed assets to establish or upgrade their operations. The loans are for one-third of capital costs, to a maximum of \$200,000, for three years, the first six months are interest free, and amortization rates are based on asset life.

Eligibility: Maximum project size is \$900,000.

Contact: British Columbia Development Corporation, 272-200 Granville Street, Vancouver, British Columbia, V6C 1S4 (604) 689-8411; toll-free 1-800-663-0733 (in British Columbia)

#### 4.8.15 Partnerships in Enterprise

Purpose: The Provincial-Municipal Partnership Act has enabled the province to join municipalities in offering major economic incentives to businesses. Municipalities will be able to reduce municipal property taxes 50 to 100 percent in return for improvements on industrial property. The province will also reduce school taxes. For substantial new investment, companies can be provided with relief from provincial corporate income tax for five years.

Eligibility: Most of the incentives are directed towards new or expanding businesses.

Contact: Ministry of Economic Development, 770 Pacific Boulevard South, Vancouver, British Columbia, V6B 5E6 (604) 660-1152; toll-free 1-800-663-0648 (in British Columbia)

#### 4.8.16 Mineral Development Agreement

Purpose: To facilitate mine development in British Columbia. Funds are available for: cost sharing on a 50/50 basis of infrastructure planning for mining development; loan assistance for capital costs; and market, technical and feasibility studies for innovative projects.

Contact: Manager, Mineral Development Agreement, Ministry of Energy, Mines and Petroleum Resources, Parliament Buildings, 808 Douglas Street, Victoria, British Columbia, V8V 1X4 (604) 387-5975

#### 4.8.17 Resource Industries Modernization Program

Purpose: To help existing resource industries acquire, adopt and apply new or improved technology. Assistance is in the form of loans to a maximum of 30 percent of eligible project costs. Terms and conditions will reflect the needs of the project.

Eligibility: Companies engaged in manufacturing or processing operations based directly on a primary resource. Eligible project costs must be less than \$2 million.

Contact: Ministry of Economic Development, 770 Pacific Boulevard South, Vancouver, British Columbia, V6B 5E6 (604) 660-1152; toll-free 1-800-663-0648 (in British Columbia)

#### 4.8.18 Discovery Foundation

Purpose: To promote new areas of advanced technology and the establishment and growth of scientific and technological industries, skills and expertise. The British Columbia Innovation office provides advisory, counselling and referral services. The Discovery Enterprise Program provides seed capital for selected high technology enterprises.

Contact: Ministry of Economic Development, 770 Pacific Boulevard South, Vancouver, British Columbia, V6B 5E6 (604) 660-1152; toll-free 1-800-663-0648 (in British Columbia)

4.8.19 Agricultural Exhibitions and Fairs

Purpose: Funds 58 exhibitions and fall fairs in the province. Classifications are determined according to the agricultural classes offered and the amount of prize money paid.

Eligibility: Associations which are members in good standing of the British Columbia Fairs Association.

Contact: Ministry of Agriculture and Fisheries, Agricultural Finance Branch, Parliament Buildings, 808 Douglas Street, Victoria, British Columbia, V8W 2Z7 (604) 387-5121

4.9 QUEBEC

4.9.1 ERDA: Canada/Quebec Communications Enterprises Development Sub-Agreement

The ministers of the federal Department of Communications and the Ministry of Communications of Quebec initialed a Subsidiary Agreement for Economic and Regional Development on February 1, 1985, in the interests of promoting the development of communications enterprises in Quebec.

The new agreement stipulates that the two governments will: encourage research and stimulate technological innovation; stimulate business investments; support the use, development and marketing of company products and services, especially on the export markets; and encourage job creation in new professional categories and foster training and recycling of workers.

This sub-agreement includes the following programs: Special Fund for Communications Initiatives; Development, Marketing, Distribution, French Language; evelopment and Marketing of Data Banks and Software; Development of Technologies and Communications Infrastructure; and Development of Procedure for Computerizing Communications Enterprises.

Contact: Secrétaire de l'Entente Canada-Québec, Ministère des Communications du Québec, 580 Grande-Allée East, Suite 440, Quebec City, Quebec, (418) 643-0988, or Secrétaire-adjoint de l'Entente Canada-Québec, Ministère des Communications du Canada, 295 Saint-Paul Street East, Montreal, Quebec, H2Y 1H1 (514) 283-7737

4.9.2 Technological Innovation Assistance Program

Purpose: To increase the overall productivity of Quebec agribusinesses.

Eligibility: Any project implemented in Quebec is eligible, if it bears on the primary production and processing of agricultural and food products or on inputs used in the agri-food sector.

Contact: Agriculture Canada, Agriculture Development (Quebec), 5 Parc Samuel Holland, Room 164, Quebec City, Quebec, G1S 4S2 (418) 648-4775; Agriculture Canada, Agriculture Development (Quebec), 180 des Gouverneurs, 3rd Floor, Rimouski, Quebec, G5L 8G1 (418) 722-3131; or Agriculture Canada, Agriculture Development (Quebec), Complexe Guy Favreau, East Tower, Room 1002D, 200 Dorchester Boulevard West, Montreal, Quebec, H2Z 1Y3 (514) 285-8888

#### 4.9.3 Canada/Quebec Subsidiary Agreement on Tourism Development

This agreement is made up of the following programs:

##### 4.9.3.1 Canada/Quebec Tourism Market Development Program

Purpose: To make Quebec attractive to international tourism.

Contact: Tourism Canada, 235 Queen Street, Ottawa, Ontario, K1A 0H5 (613) 996-3564; or Ministère du tourisme, Direction des communications, 4 Place Quebec, Room 408, Quebec City, Quebec, G1R 4X3 (418) 643-5959

##### 4.9.3.2 Canada/Quebec Major Tourism Project Investment Incentives

Purpose: To encourage private investment in tourist attractions, equipment and holiday and distribution centres.

Contact: Tourism Canada, 235 Queen Street, Ottawa, Ontario, K1A 0H5 (613) 996-3564; or Ministère du tourisme, Direction des communications, 4 Place Quebec, Room 408, Quebec City, Quebec, G1R 4X3 (418) 643-5959

#### 4.9.4 Société d'Investissement Jeunesse (SIJ)

Purpose: Provides financial assistance which may take the form of a personal loan guarantee for the applicant, who can then borrow the necessary equity to start his/her business. The maximum loan guarantee is \$35,000 for an individual, or \$100,000 for a group.

Eligibility: The applicant must be between 18 and 30 years of age and invest in the project 10 percent of the amount guaranteed by the SIJ. The project must create three permanent jobs over a two-year period and be sponsored by an experienced business person (e.g. a consultant or economically-oriented organization).

Contact: L'analyste, Société d'Investissement Jeunesse, Stock Exchange Tower, 18th Floor, PO Box 385, Montreal, Quebec, H4Z 1J2 (514) 875-8674



#### 4.9.5 Innovation and Research Activities Assistance Program

Purpose: To help finance services, processes, or products, or their improvements. Financial assistance is granted in the form of an interest-free loan throughout the development period and is repayable by royalties. Should the project be totally or partially unsuccessful, part of the loan will be forgiven. The amount of the loan may not exceed 90 percent or 80 percent of the eligible percent expenses, after deducting any federal subsidies, depending if the level of sales are greater than \$10 million. The maximum amount of the loan is \$1 million per project.

Contact: Societé de développement industriel du Québec (SDI) (see 4.9.7)

#### 4.9.6 Canada/Quebec Subsidiary Agreement on Industrial Development

On January 23, 1985, a new subsidiary Canada-Quebec agreement was signed establishing a special fund of \$300 million to promote private projects of a minimum of \$10 million in capital costs, mainly in high technology industries. The agreement is for five years ending in March 31, 1990. Both governments (Canada and Quebec) equally share costs. The program funds: feasibility studies (up to 75 percent of study costs); the establishment of fabricating facilities (new, expanded or modernized); industrial laboratories, applied research centres, (grants, guaranteed loans, takeover of interest and any other forms in response to specific needs). The maximum sharing ratio has not been determined at this time.

CONTACT: Minister of Industry and Commerce, Investment Promotion Service, 770 Sherbrooke West, 8th Floor, Montreal, Quebec, H3A 1G1, (514) 873-3530  
TELEX: 055-61760

#### 4.9.7 Manufacturing Investment Assistance Program

Purpose: To promote investments in the province of Quebec by manufacturers involved in projects with a significant technological content.

Eligibility: Applicant must invest a minimum of \$50,000 in machinery and equipment; a project for expansion or modernization must represent at least 10 percent of the value of the fixed assets of the enterprise in Quebec at the time of the application; the technology to be used in the project must be modern and result in productivity that is above average for the manufacturing sector or its sub-group; the goods to be manufactured must offer marketing prospects outside the province of Quebec. The prospective markets should have a growth rate that is above average for the manufacturing sector, or be sizeable and inadequately served by manufacturing companies in the province of Quebec. The project should have positive effects for the province of Quebec, such as the creation of specialized jobs or the development of research and technological innovation. The company must not make any contractual commitments concerning the eligible expenses before its application has been received by SDI. Furthermore, no work related to the project may commence prior to receiving an offer for financial assistance from SDI.



Contact: Société de développement Industriel du Québec (SDI); offices are located in the following cities: Montreal: 770 Sherbrooke Street West, 9th Floor, Montreal, Quebec, H3A 1G1 (514) 873-4375; Quebec City: 1126 St. Louis Street, Room 700, Quebec City, Quebec, G1S 1E5 (418) 643-5172; Sherbrooke: 740 Galt Street West, Room 303, Sherbrooke, Quebec, J1H 1Z3 (819) 565-1224; Rimouski: 337 Moreault Street, Rimouski, Quebec, G5L 1P4 (418) 722-3582; Victoriaville: Provincial Building, 62 St. Jean-Baptiste Street, Victoriaville, Quebec, G6P 4E3 (819) 752-4521/22; Jonquière: MIC - Administrative Centre, 4th Floor, 3950 Harvey Boulevard, Jonquière, Quebec, G7X 8L6 (418) 547-9771; Trois-Rivières: 100 Laviolette Street, 3rd Floor, Trois-Rivières, Quebec, G9A 5S9 (819) 379-3012

#### 4.9.8 Business Financing Program

Purpose: Provides loan guarantees and protection against interest rate increases.

Eligibility: This program applies to loans not exceeding \$10 million incurred for the purpose of making new capital investments or increasing working capital. It may not be spent for refinancing existing debts including lines of credit. It is made available to companies which can demonstrate that this form of assistance is required.

Contact: Société de développement Industriel du Québec (SDI), as above.

#### 4.9.9 Canada/Quebec Subsidiary Agreement on Mineral Development

The Agreement is made up of the following:

##### 4.9.9.1 Canada/Quebec Geoscientific Activities Program

Purpose: To increase knowledge of Quebec's geology, to identify areas (including native lands) likely to have minerals of economic interest and to stimulate exploration by industry in order to discover deposits which can be profitably developed.

Contact: Department of Energy, Mines and Resources, Geological Survey of Canada, Room 180, 601 Booth Street, Ottawa, Ontario, K1A 0E8 (613) 992-9550, or Ministère de l'Energie et des Ressources, Direction des communications, 200B, chemin Ste-Foy, Quebec City, Québec, G1R 4X7 1-800-463-4558

##### 4.9.9.2 Canada/Quebec Asbestos Research and Development Program

Purpose: To promote R&D into the use of chrysotile asbestos. The Asbestos Institute is responsible for defining the areas of major emphasis in asbestos R&D. These include: offering technical services to the various companies which purchase asbestos fibre; conducting research into new asbestos-based products, developing new uses and improving existing asbestos products; and financing medium and long-term research at universities and other centres into applications for the fibre.

Contact: As above.

4.9.9.3 Canada/Quebec Mineral Development Infrastructure Program

Purpose: To encourage establishment of new mineral production and processing facilities internationally. This program is intended to put such facilities on a par with their foreign competitors by providing assistance to cover the costs of essential infrastructure.

Contact: As above.

4.9.10 Canada/Quebec Subsidiary Agreement on Scientific and Technological Development

The federal Ministry of State for Science and Technology and the Ministère québécois du Commerce extérieur et du Développement technologique have created three programs under the Canada/Québec Subsidiary Agreement on Scientific and Technological Development. The governments share equally the cost of these programs.

4.9.10.1 Opportunity or Feasibility Studies

Purpose: Provides financial support for opportunity or feasibility studies for major research and development projects leading to the application and dissemination of new technologies or the development of any new product service or process.

Opportunity studies analyze development opportunities in major scientific and technological sectors in Quebec. Feasibility studies determine the cost of implementing and operating a specific project. The minimum cost for each study should be \$20,000.

4.9.10.2 Modernization of Research and Development Equipment

Purpose: To promote the purchase of scientific equipment for major projects, excluding manpower, infrastructure and financing expenses.

4.9.10.3 New Initiatives in Research and Development

Purpose: These are specific projects resulting from feasibility studies, pilot projects or other similar initiatives. The minimum cost for each project should be \$100,000. Eligible expenses include salaries, consulting and subcontracting fees and expenditures for the development of prototypes.

Eligibility: Firms in the manufacturing or service sectors doing business in Quebec, non-profit organizations representing an economic sector or involved in industrial research and development activities.

Contact: The Joint Office of Program Evaluation, Canada/Quebec Subsidiary Agreement on Scientific and Technological Development, PO Box 1690, Station B, Montreal, Quebec, H3B 3L3 (514) 842-7883

#### 4.9.11 Research Laboratories Investment Assistance Program

Purpose: To provide financial assistance for profit-oriented manufacturing businesses to set up applied research laboratories.

Eligibility: The project must involve an investment in machinery and equipment of at least \$100,000 or of a value in excess of 10 percent of the value of the applicant's fixed assets in Quebec.

Contact: Société de développement industriel du Québec (SDI) (see 4.9.7)

#### 4.9.12 Export Promotion Assistance Program (APEX)

Purpose: To assist Quebec-based businesses in exporting to markets outside of Quebec. It includes: assistance in investigating and developing new markets and for negotiating licence agreement projects; aid for participation in commercial exhibitions outside Quebec; and help in implementing an export marketing strategy.

Eligibility: The project should increase exports of products which are at least 60 percent Quebec-made.

Contact: Ministry of External Trade, 770 Sherbrooke Street West, 7th Floor, Montreal, Quebec, H3A 1G1 (514) 873-5575

#### 4.9.13 Export Assistance Program

Purpose: To provide financial assistance for firms wishing to export goods or services produced in Quebec. It includes: help in the identification and establishment in new markets; (the SDI can advance funds in the form of a loan over several years to defray up to 80 percent of the expenses incurred to penetrate new markets outside Quebec), and export financing, in the form of a loan at market rates or a loan guarantee for those firms which require additional financing.

Contact: Société de développement industriel du Québec (SDI) (see 4.9.7)

4.10 ALBERTA

4.10.1 Alberta Royalty Tax Credit

Purpose: Companies are able to reclaim 95 percent of all provincial royalties paid up to \$3 million.

Contact: Alberta Treasury, Corporate Tax Policy Branch (403) 427-2137

4.10.2 Business Incubator Program

Purpose: Provides financial assistance for the establishment of small business incubators in communities throughout Alberta.

Contact: Alberta Economic Development and Trade. (403) 427-3300

4.10.3 Alberta Opportunity Company

Purpose: Provides short, medium and long-term loans and loan guarantees over predetermined fixed repayment periods.

Eligibility: Proprietorships, partnerships, or corporations; must operate for a profit in an industry that contributes to economic expansion of the province.

Contact: Managing Director, Head Office, Alberta Opportunity Company, PO Box 1860, Ponoka, Alberta, T0C 2H0 (403) 783-7011

4.10.4 Vencap Equities Alberta Ltd.

Purpose: To assist in the creation of new Alberta-based companies and participate in the growth of existing companies by providing equity capital and management support. Vencap cannot gain control of a business.

Eligibility: Firms in all areas except conventional oil and gas exploration and development, banking and lending operations, nuclear power and real estate.

Contact: Vencap Equities Alberta Ltd. (403) 420-1171

4.10.5 Alberta Stock Saving Plan (ASSP)

Purpose: To strengthen the private sector and the Alberta Stock Exchange by providing expansion capital for new and growing Alberta companies.

Eligibility: Must be Canadian-controlled corporations paying 25 percent of their wages and salaries to Alberta residents. The corporation's assets cannot exceed \$500 million and no more than 50 percent of its assets can consist of shares, bonds, debentures or cash. Eligible shares are treasury common shares with full voting rights and convertible preferred shares issued by emerging companies (assets less than \$5 million or revenue less than \$6 million). The shares must be listed on the Alberta Stock Exchange.



**Contact:** Alberta Treasury, Corporate Tax Administration, 9811 - 109 Street, Sir Frederick W. Haultain Building, Edmonton, Alberta, T5K 2L5 (403) 427-9425 ZENITH 22143

4.10.6 Product Development Program

**Purpose:** Provides financial assistance to small and medium-size manufacturing companies to develop new or improved products with sound market potential. Covers 75 percent of professional design expertise, direct labour, material for prototypes, testing and packaging, to a maximum of \$30,000.

**Contact:** Department of Economic Development and Trade, 10th Floor, Sterling Place, 9940 - 106 Street, Edmonton, Alberta, T5K 2P6 (403) 427-2005

4.10.7 Canada/Alberta Agricultural Processing and Marketing Subsidiary Agreement (ERDA)

**Purpose:** To encourage and facilitate private sector investment in processing agricultural, food and related products. The products should have domestic and export growth potential or replace imports and help diversify Alberta's economic base. Contributions of up to 35 percent are available for new capital projects and up to 25 percent for modernizing facilities. Trial shipments, market and investment analyses, new and improved product development and pilot projects are also eligible for assistance.

**Contact:** Department of Regional Industrial Expansion, Suite 505, Cornerpoint Building, 10179 - 105 Street, Edmonton, Alberta, T5J 3S3 (403) 420-2944

4.10.8 Canada/Alberta Northern Development Subsidiary Agreement

**Purpose:** To increase the size and range of economic, business and industrial activity in northern Alberta; to help northern residents take advantage of business and industrial employment opportunities; and to support the development of community and regional infrastructure.

**Contact:** Canada/Alberta Northern Development Subsidiary Agreement, Bag 900, Peace River, Alberta, T0H 2X0 (403) 624-6276 toll-free: 1-800-362-1353

4.10.9 Canada/Alberta Tourism Development Agreement

**Purpose:** To stimulate private sector investment in the development and marketing of tourist attractions and facilities with national and international appeal. Funds are available for studies, capital marketing and training costs for new and modernized facilities, alpine ski facilities, market development, professional development and industry and community development.

**Contact:** Canada/Alberta Tourism Agreement, 16th Floor, 10025 Jasper Avenue, Edmonton, Alberta, T5J 3Z3 (403) 422-0312



**4.10.10 Alberta Farm Development Loan (AFDL)**

Purpose: To help producers obtain quick access to inexpensive, short and intermediate-term financing. The Alberta Agricultural Development Corporation (ADC) will provide banks, credit unions and the Alberta Treasury Branch with a blanket guarantee of the loans. The lender determines whether or not the loan will be made.

Eligibility: Farmers or farming partnerships or companies who are, or intend to be, primary agricultural producers in Alberta.

Contact: The applicant should apply to the lender of his choice. All major banks, Treasury Branches and credit unions have access to the program.

**4.10.11 Gas Royalty Incentives: Deep Gas Royalty Holiday**

Purpose: Rewards producers who bring into production new wells in gas pools more than 2,500 metres deep.

Eligibility: Eligible wells must be outside pool boundaries known to exist on June 1, 1985, and the producing interval of the well must be deeper than 2,500 metres. The value of the royalty holiday is related to the depth of the producing interval below 2500 metres.

Contact: Incentives Branch, Mineral Revenues Division, 9th Floor, 9945 - 108 Street, Edmonton, Alberta, T5K 2C9 (403) 427-6583.

**4.10.12 Gas Royalty Incentives: New Gas Status - Preferred Royalty**

Purpose: New Gas Status is available to operators for selected wells producing from crown lands upon application to the Incentives Branch.

Eligibility: The gas must be obtained from a pool discovered on or after January 1, 1974.

Contact: As above.

**4.10.13 Gas Royalty Incentives: Exploratory Gas Well Incentive**

Purpose: To support gas exploration by providing a limited royalty for production from successful exploration wells.

Eligibility: Eligible wells must be located at least 4.8 kilometres from other wells that are or were capable of producing, or there must be more than 150 metres depth differential between the previously known interval and the new interval. Spudding or deepening must take place during the three year period ending June 1, 1988.

Contact: As above.

4.10.14 Gas Royalty Incentives: New Pentanes Plus Status - Preferred Royalty

Purpose: New Pentanes Plus Status is available to operations for the pentanes plus recovered from natural gas produced from eligible wells upon application to the Incentives Section. New Pentanes Plus is subject to a lower royalty rate than Old Pentanes Plus.

Eligibility: These categories may qualify: pentanes plus recovered from raw gas produced from new natural gas pools or from extensions of existing natural gas pools discovered after December 31, 1980, providing that the raw gas contains 0.5 percent or more pentanes plus by volume; and pentanes plus recovered from natural gas produced in association with the conventional crude oil qualifying for New Oil Status.

Contact: As above.

4.10.15 Petroleum Royalty Incentives: Royalty Relief Section 4.1

Purpose: To assist producers who want to implement innovative but risky conservation and/or production schemes. The incentive of this program is a prescribed reduced royalty for a specific period, determined by the Lieutenant-Governor in Council.

Contact: As above.

4.10.16 Petroleum Royalty Incentives: Royalty Relief Section 4.2

Purpose: To offset the costs and risks associated with Energy Resources Conversation Board approved Enhanced Oil Recovery Schemes (tertiary recovery schemes). The benefit of this program is the producer's effective annual royalty rate times allowable scheme costs which are specified by the province.

Contact: As above.

4.10.17 Petroleum Royalty Incentives: Five Percent Oil Royalty Rebates

Purpose: To offset the costs of injected substances used in pressure maintenance or Enhanced Oil Recovery schemes. Producers who purchase NGL for injection receive up to five percent rebate of the royalties payable on the crude oil production from the scheme.

Contact: As above.

4.10.18 Petroleum Royalty Incentives: Annual Accounting Royalty Averaging

Purpose: Adjusts royalties for those wells which have production abnormalities (e.g. remote location, harsh terrain or weather). Production and royalties are averaged over the year.

Contact: As above.

4.10.19 Petroleum Royalty Incentives: New Oil Status - Preferred Royalty

Purpose: New Oil Status is available to operators of individual crude oil wells upon application to the Incentives Branch. New oil is subject to a lesser royalty rate than old oil.

Eligibility: Oil produced from pools discovered after 1974; incremental oil produced from an Enhanced Oil Recovery scheme; and oil produced from a pool three years or more after production from that pool has ceased.

Contact: As above.

4.10.20 Petroleum Royalty Incentives: Crude Oil Royalty Holiday

The Crude Oil Royalty Holiday was implemented during the summer of 1985 as part of the new Incentives and Royalty package.

Eligibility: The holiday is extended to successfully drilled or deepened wells in new conventional pools or extensions of current pools where spudding takes place during the three year period ending October 31, 1989.

Contact: As above.

4.10.21 Alberta Oil Sands Technology and Research Authority (AOSTRA)

Purpose: Funds research and development projects for oil sands, heavy oil and enhanced recovery. Projects are submitted by industries associated with oil sands research and development.

Contact: AOSTRA, 500 Highfield Place, 10010-106 Street, Edmonton, Alberta, T5J 3L8 (403) 427-7623

4.10.22 Business Counselling Service

Purpose: Provides counselling services throughout the province from experienced business analysts and business development representatives. Merchandising, marketing, financing and manufacturing are a few of the many areas where specialized expertise is available.

Contact: Small Business Assistance Division (403) 427-3685

4.10.23 Business Site Locations Program

Purpose: To help businesses find suitable locations in Alberta. It utilizes community profile packages, regional offices and other Alberta government departments.

Contact: Economic Development and Trade, 17th Floor, 10025 Jasper Avenue, Edmonton, Alberta, T5J 3Z3 (403) 427-3685

4.10.24 Management Assistance Program

Purpose: The Alberta government hires management consultants which operate through local chambers of commerce, counselling about 20 small-business people in a community on a one-to-one basis. Participants pay a nominal fee to the chambers of commerce to cover out-of-pocket expenses.

Contact: Director, Small Business Division, Department of Economic Development and Trade, 17th Floor, 10025 Jasper Avenue, Edmonton, Alberta, T5J 3Z3 (403) 427-3685

4.10.25 International Marketing Employment Program

Purpose: To develop export markets by assisting Alberta businesses to hire post-secondary graduates to work on specific international marketing projects. Projects must provide employment for 12 to 24 months. Employers will be reimbursed 50 percent of an individual's wages to a maximum of \$15,000 per year. An additional \$3,000 per year may be reimbursed for the employee's international travel.

Contact: Alberta International Marketing Employment Program, Alberta Career Development and Employment, 17th Floor, Park Square Building, 10001 Bellamy Hill, Edmonton, Alberta, T5J 3W5 (403) 427-4740 toll-free ZENITH 22140

4.10.26 Program for Export Market Development

Purpose: To increase the number of new Canadian exporters and to encourage existing exporters to move into new markets. It encourages Canadian companies to introduce their new products to world markets. Provides assistance to attend trade fairs within Canada and abroad.

Contact: Local office of DRIE, Edmonton, Alberta, (403) 420-2944 toll-free 1-800-267-8376

4.10.27 Market Development Assistance Program

Purpose: To assist Alberta businesses by sharing some of the financial risks in entering new markets and exporting their goods and services.

Contact: Department of Financial Programs, Special Projects, 12th Floor, Sterling Place, 9940 - 106 Street, Edmonton, Alberta, T5K 2P6 (403) 427-3300

4.10.28 Export Services Support Program

Purpose: To encourage Alberta businesses to pursue specific projects outside of Alberta by funding feasibility and other studies that could lead to firm contracts for Alberta goods and services.

Contact: As above.



4.10.29 Alberta Loan Guarantee Program

Purpose: Provides government guarantees for loans made by financial institutions to Alberta businesses, to enable them to be more competitive in export sales.

Contact: As above.

4.11 SASKATCHEWAN

4.11.1 Canada/Saskatchewan Subsidiary Agreement

4.11.1.1 Northern Economic Development (NEDSA)

Purpose: To encourage economic development and increase opportunities for permanent employment in northern Saskatchewan. The amount granted depends upon individual project circumstances. Loans are not available under the program. Grants are available under the following sub-programs:

Economic Development: Regional Economic Planning and Development, Project Planning and Feasibility Analysis, Business Opportunity Development, Northern Renewable Resources; Human Resource Development: Northern Professional and Technical Education, Access to Employment; and Capital Support.

Contact: Saskatchewan Northern Affairs Secretariat, Saskatchewan Tourism, Small Business and Co-operatives, PO Box 5000, La Ronge, Saskatchewan, S0J 1L0 (306) 425-4200; or Department of Regional Industrial Expansion, 6th Floor, 105 - 21st Street East, Saskatoon, Saskatchewan, S7K 0B3 (306) 975-4408

4.11.1.2 Canada-Saskatchewan Subsidiary Agreement on Irrigation Based Economic Development

Purpose: This funding will concentrate on the development of cost effective delivery of water supplies to irrigate soils. This will involve and include the analysis and development of both markets and processing opportunities.

Eligibility: The agreement provides \$100 million over five years for this economic development and growth in Saskatchewan's agricultural sector through irrigation and based activities. Assistance can also be provided to industrial projects which create markets for irrigated crops.

Contact: Intergovernmental Affairs Branch, Executive Council (306) 787-3436.



4.11.1.3 Canada-Saskatchewan Forest Resource Development Agreement

Purpose: Funding of \$28 million, available over 4 years, is provided by the federal and provincial governments to assist in the development of sufficient timber supplies, the prevention of abuse of forest resources, the ensurance of the long-term viability of the forest industry and the creation of employment opportunities. Activities focus on enhanced forest protection, forest renewal, nursery development, growth enhancement and insect and disease investigations.

Contact: Intergovernmental Affairs Branch, Executive Council (306) 787-3436.

4.11.1.4 Canada-Saskatchewan Subsidiary Agreement of Agricultural Development

Purpose: This agreement is designed to develop and conserve agricultural resources, concentrating on soil degradation, irrigation and crop intensification. A second function of this Agreement is the development of commodity sectors including livestock productivity, irrigation development and human resource development.

Eligibility: A total of \$55 million is committed to efforts on agricultural development.

Contact: Intergovernmental Affairs Branch, Executive Council (306) 787-3436.

4.11.1.5 Canada-Saskatchewan Subsidiary Agreement on Tourism

Purpose: Funding of \$30 million is jointly provided by the federal and Saskatchewan governments to focus on efforts necessary to upgrade the quality and diversity of Saskatchewan's tourism products, such as enhancement of trade/convention facilities, tourism events and the development of permanent attractions.

Contact: Intergovernmental Affairs Branch, Executive Council (306) 787-3436.

4.11.1.6 Canada-Saskatchewan Special Rural Development Agreement

Purpose: This agreement provides funds and a defined program to facilitate the economic development and social adjustment of disadvantaged people in rural areas particularly those of Indian ancestry. Projects approved encourage the establishment, acquisition, expansion of modernization of any commercial undertaking in primary resource industries, processing and manufacturing industries and/or provision of services (counselling and training). The cost of this project is shared equally by the provincial and federal governments.

Contact: Intergovernmental Affairs Branch, Executive Council (306) 787-3436.

4.11.2 Oil Royalty/Tax Incentive Program

Purpose: Provides royalty- or tax-free periods to the oil industry to promote basic exploration, development, and production activity in the province.

Contact: Oil Royalty/Tax Incentives Program, Saskatchewan Energy and Mines, 1914 Hamilton Street, Regina, Saskatchewan, S4P 4V4 (306) 7787-2604. Michael Ferguson, Senior Engineer, Economic and Fiscal Analysis Branch

4.11.3 Youth Entrepreneur Program

Purpose: Provides financial help to young people between the ages of 18 and 30 who wish to start up their own businesses in Saskatchewan.

Contact: Saskatchewan Economic Development Corporation

4.11.4 Agri-Lease

Purpose: To provide additional funds to Saskatchewan manufacturers of short-line agricultural equipment for lease to farmers, corporations, co-operatives, and other eligible agricultural entities.

Contact: As above.

4.11.5 Saskatchewan Economic Development Corporation

4.11.5.1 Financial Programs

Purpose: To provide financial assistance to industrial enterprises in Saskatchewan. Assistance is in the form of loans, loan guarantees, equity acquisitions and leasebacks.

Eligibility: Most manufacturing and commercial organizations with the exception of mining, farming, real estate, financial institutions and charitable organizations.

Contact: Saskatchewan Economic Development Corporation, 1106 Winnipeg Street, Regina, Saskatchewan, S4P 3W2 (306) 787-7200

4.11.5.2 Retail Operating Loan (ROL)

Purpose: To help small to medium-sized retailers maintain suitable levels of inventory. Loans from \$5,000 to \$25,000 are available at one percent below the commercial bank prime rate.

Eligibility: Small to medium-size Saskatchewan retailers who must have a basically viable business, able to carry additional debt and be able to provide reasonable security.

Contact: As above.

4.11.5.3 Lease-Option Program

Purpose: To provide an alternate method of obtaining manufacturing warehouses or distribution facilities in Saskatchewan. Total cost of the facility is amortized over 20 years at current interest rates adjusted every five years.

Contact: As above.

4.11.5.4 Venture Capital Program (VCC)

Purpose: To stimulate the growth of the small business sector through the formation of a Venture Capital Corporation. Eligible investors will receive a tax credit equal to 30 percent of their investment applied against net Saskatchewan tax payable in the current year or carried forward up to seven years.

Eligibility: Canadian-controlled, Saskatchewan businesses engaged in manufacturing and processing, tourism activities, or R&D. The business must have no more than 75 employees at the time of investment.

Contact: Saskatchewan Economic Development Corporation, 1106 Winnipeg Street, Regina, Saskatchewan, S4P 3W2 (306) 787-7200

4.11.5.5 Tour Development Incentive Program

Purpose: To encourage the development of package tours in the province by providing marketing support to provincial tour companies.

Assistance: Part of the promotional materials produced by the tour company is bought back (to a maximum of \$1,500) and distributed in selected markets. The government contributes 50 percent of advertising expenses, up to a maximum of \$3,000, for selling package tours in selected markets.

Eligibility: Transportation companies, motor coach operators or tour wholesalers who promote package tours to Saskatchewan.

Contact: As above.

4.11.5.6 Northern Saskatchewan Revolving Fund

Purpose: To identify and stimulate economic development in the north, and to ensure that northern residents benefit from development opportunities. The program provides loans from \$1,000 to \$300,000. Interest rates for commercial fishing and trapping loans are six percent per annum; for commercial ventures, they are 10 percent.

Eligibility: Saskatchewan residents who have lived in the Northern Administration District (NAD) for 15 years or one-half their lifetime; co-operatives, corporations, or partnerships in which controlling interest is by person(s) meeting this residence requirement; local governments in the NAD.

Contact: Saskatchewan Tourism, Small Business and Co-operatives, Bank of Montreal Building, 2103 - 11th Avenue, Regina, Saskatchewan, S4P 3V7 (306) 787-2300

#### 4.11.5.7 Entrepreneur Program

Purpose: To support ideas which are technically and commercially feasible. The client is helped to develop a business plan and to find sources of venture capital.

Eligibility: Inventors.

Contact: Department of Science and Technology, 108 Research Drive, Innovation Place, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-7200

#### 4.11.5.8 Feasibility Studies

Purpose: To provide financial assistance to the small firm which has little or no marketing and technical capability. The program helps firms to hire consultants to assess whether a proposed product is technically feasible and will sell. Support through the program is limited to a maximum of \$2,500 for both a technical and commercial feasibility study.

Eligibility: Any small technology-related Saskatchewan-based company.

Contact: Department of Science and Technology, 108 Research Drive, Innovation Place, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-7200

#### 4.11.6 Saskatchewan Stock Saving Plan (SSSP)

Purpose: To encourage equity investment by Saskatchewan residents.

Eligibility: Corporations must be Canadian-controlled and pay 25 percent of their wages and salaries to Saskatchewan residents. The corporation's assets cannot exceed \$500 million and no more than 50 percent of its assets can consist of shares, bonds, debentures or cash. Eligible shares are newly-issued treasury common shares with full voting rights and convertible preferred shares.

Contact: Saskatchewan Finance Revenue Division, 2350 Albert Street, 3rd Floor, Regina Saskatchewan, S4P 4A6 (306) 787-7773

#### 4.11.7 Other Incentives

Purpose: Assistance is provided to attract business, help in the expansion of existing business and increase the sale of manufactured products. This takes the form of cost shared market and feasibility studies; marketing assistance for manufacturers; and incentives of up to 25 percent of eligible capital costs based on \$7,500 per job created; a minimum capital investment of \$30,000 is required. Non-financial assistance is also available.

Eligibility: New or existing Saskatchewan companies or investors.



Contact: Development Co-ordinator, Investment Services Branch, Investment Services Branch, Saskatchewan Economic Development and Trade, 2103-11th Avenue, Regina, Saskatchewan, S4P 3V7 (306) 787-2232

#### 4.11.8.1 Industrial Research

Purpose: To support the research and development of advanced technology products. The program is intended to complement the National Research Council's IRAP L, M and P programs and the federal IRDP program, and to provide for support where these programs are deficient from a provincial perspective. Support through this program is up to 25 percent provincial government participation.

Eligibility: Any technology-related Saskatchewan-based company.

Contact: Department of Science and Technology, 108 Research Drive, Innovation Place, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-7200

#### 4.11.8.2 Joint High Technology Research

Purpose: To provide financial assistance to support research projects in areas of interest to both government and industry. The program fills a niche not covered by any other program. It provides for research activities performed by industrial companies and supported by the province in technology fields of high provincial priority. Support through this program is up to 50 percent of the eligible research costs.

Eligibility: Any technology-based Saskatchewan-based company.

Contact: As above.

#### 4.11.8.3 Research Infrastructure

Purpose: To encourage the development of an advanced technology infrastructure through the establishment or expansion of Industrial Research Institutes and/or Centres of Excellence. The program provides a means for creating the necessary support functions needed in the province to facilitate a viable advanced technology industry. Support is aimed at funding over and above that provided by other sources.

Eligibility: Any technology-related Saskatchewan-based company, University of Regina, University of Saskatchewan, the Saskatchewan Research Council or any other recognized research institute.

Contact: As above.

#### 4.11.8.4 Capital Equipment

Purpose: To provide funds to the two Saskatchewan universities and the Saskatchewan Research Council for the purchase of specified high technology equipment needed for specific research contracts initiated by industry. The program will provide up to 50 percent of the cost of specified equipment. Industry must provide at least 50 percent of the cost.



Eligibility: The University of Regina, University of Saskatchewan and the Saskatchewan Research Council.

Contact: Department of Science and Technology, 108 Research Drive, Innovation Place, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-7200

#### 4.11.9 Economic Regional Development Agreement (ERDA)

The Canada-Saskatchewan Subsidiary Agreement on Advanced Technology, part of the Economic Regional Development Agreement (ERDA), is a five year, \$33 million agreement aimed at establishing and speeding the growth of advanced technology industries in Saskatchewan. These economic goals are achieved by the following eight programs, developed after close consultation with industry. The federal and provincial governments share the cost and administer the program.

##### 4.11.9.1 Development Analysis

Purpose: Helps industry to identify business opportunities which support and speed up the growth of the entire industry; gives Saskatchewan industry a powerful tool to expand or establish new firms.

Eligibility: individuals, Saskatchewan firms, groups, and associations.

Contact: Saskatchewan Science and Technology, 15 Innovation Boulevard, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-6876

##### 4.11.9.2 University-Industry Collaboration

Purpose: Enhances co-operation between industries and the federal government; strengthens the universities' research and training capabilities in areas that industry considers important. Funds are provided for salaries and fellowships, research costs, and the purchase of equipment.

Eligibility: Saskatchewan advanced technology firms which can demonstrate a prearranged partnership with either university; industrially-oriented research initiated by industry and directed by a Saskatchewan university.

Contact: As above.

##### 4.11.9.3 Task Forces and Project Teams

Purpose: Funds industry-university groups working to commercialize university research and development opportunities for industrial growth; increases co-operation between industry and the universities.

Eligibility: Task forces, project teams, and secretariats which are geared towards the commercial application of research results.

Contact: As above.

#### 4.11.9.4 Marketing Support

Purpose: Strengthens the marketing strategies and capabilities of advanced technology firms by funding marketing studies and follow-up.

Eligibility: Saskatchewan advanced technology firms.

Contact: As above.

#### 4.11.9.5 First-User Risk Reduction

Purpose: Helps launch new products into the marketplace; helps the manufacturer find a first customer more quickly, makes sure that the customer is satisfied, and speeds up growth in sales, exports, and jobs in Saskatchewan.

Eligibility: A one-time sale to first users of a new or substantially improved advanced technology product with significant market potential. The product must be developed or manufactured in Saskatchewan and the first user must be part of an industrial, commercial, or institutional market that is demonstrably reluctant to use a new or improved product without evidence of successful application by buyers in that market.

Contact: As above.

#### 4.11.9.6 Bridging Capital Assistance

Purpose: Provides repayable, up-front, interest-free assistance to companies doing research and development; allows firms to undertake research and qualifies them for other government assistance.

Eligibility: Advanced technology firms which are short of cash.

Contact: As above.

#### 4.11.9.7 Strategic Investment Assistance

Purpose: Provides incentives to companies undertaking new investments which will contribute to the growth of the industry as a whole; stimulates new businesses and reduces existing industry's dependence on external services and suppliers.

Eligibility: Foreign or domestic industries with the financial resources and marketing, management, manufacturing and technical skills needed to successfully exploit an investment opportunity; investment which provides service or support to the advanced technology industry; investment in new, expanded or modernized facilities offering strategic goods or services that enhance the strength and diversity of commercial advanced technology activity.

Contact: As above.

4.11.9.8 Industrial Investment Assistance

Purpose: Provides funds to encourage capital investment by advanced technology and support firms; stimulates industrial growth and expansion in the advanced technology sector.

Eligibility: Manufacturing or service firms directly involved in, or related to, Saskatchewan advanced technology industries.

Contact: Saskatchewan Science and Technology, 15 Innovation Boulevard, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-6876

4.11.10 Management Assistance Program

Purpose: To improve productivity and profit in Saskatchewan business; to develop an effective private consulting industry; and to help business people help themselves. The program pays consultant's fees.

Eligibility: Local businesses, mainly retail, in groups of approximately 20 participants who desire management assistance.

Contact: Saskatchewan Tourism, Small Business and Co-operatives, Bank of Montreal Building, 2103 - 11th Avenue, Regina, Saskatchewan, S4P 3V7 (306) 787-2300

4.11.11 Inventor Services

Purpose: To provide inventors with a technical and market evaluation of their ideas before they proceed with commercialization. If the inventor sells the product, assistance is provided in preparing a business plan.

Eligibility: Any inventor paying a flat fee of \$100.

Contact: Department of Science and Technology, 108 Research Drive, Innovation Place, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-7200

4.11.12 Request for Proposals

Purpose: To offset part of the costs of preparing proposals costing more than \$10,000. The program will allow more Saskatchewan companies to compete for large projects outside the province. Funding under this program may provide assistance up to one-third of the cost of proposal preparation and presentation.

Eligibility: Any technology-related Saskatchewan-based company.

Contact: Industrial Development Branch, Saskatchewan Science and Technology (306) 787-2944.

4.11.13 Information Transfer

Purpose: To bring industry-oriented technological information into the province through such activities as seminars, conferences, guest speakers, etc. Support through the program will be on a negotiated cost-sharing basis. Information must have practical value to more than one interested group.

Eligibility: Any technology-related Saskatchewan-based company, Saskatchewan universities, Saskatchewan Research Council, industry-related groups and professional organizations.

Contact: As above.

4.11.14 Liaison, Advisory and Facilitation Services

Purpose: To provide counselling to help prepare business plans, market data and other information necessary to secure financing of new technology business.

Eligibility: Any technology-related Saskatchewan-based company.

Contact: Department of Science and Technology, 108 Research Drive, Innovation Place, Saskatoon, Saskatchewan, S7N 2X8 (306) 933-7200

4.11.15 Investment Opportunities Program

Purpose: This program provides potential project investors with information on investment opportunities within the province of Saskatchewan. The opportunities cover a wide range of business activity including manufacturing, high tech, service and tourism. The opportunities do however, primarily focus on manufacturing and high technology. Specific opportunities focus on existing or emerging companies that are seeking equity investments, partners or buy-outs. General opportunities focus on manufacturing projects that represent potential within this province.

Contact: Industrial Development Services Branch, Saskatchewan, Economic Development and Trade (306) 787-2232.

4.11.16 Investor Information Services

Purpose: This program provides potential project investors with detailed background information on the Province of Saskatchewan. Available through this service are customized packages of information designed specifically for each request and extracted selectively from 54 separate topic areas that comprise approximately 250 pages of data in total.

Contact: Industrial Development Services Branch, Saskatchewan, Economic Development and Trade (306) 787-2232.



4.11.17 Counselling Assistance Services - New Industrial Development

Purpose: Assistance is available to potential project investors in the planning and the development of their project. Staff of this branch provide assistance in accessing financing, accessing government programs, complying with regulatory requirements, making contacts in other Departments and reviewing operational and financial plans.

Contact: Industrial Development Services Branch, Saskatchewan Economic Development and Trade (306) 787-2232.

4.11.18 Trade Division Exporter Services

Purpose: Staff of this Division provide consulting services to both existing and potential exporters. These services range from advice on how to export through market identification to international marketing techniques. Division staff can also provide background data on countries that represent potential for Saskatchewan's products and services.

Division staff will identify appropriate trade shows and will advise companies about trade shows where potential opportunities exist. The staff of this division identify and audit new shows to open new markets for Saskatchewan based companies.

Contact: Trade Development Division, Saskatchewan Economic Development and Trade (306) 787-2232.

4.11.19 Business Immigration Program

Purpose: Staff members of this program encourage settlement and investment in Saskatchewan for business immigrants who will manufacture products to replace imports or increase the provincial export potential, introduce new or contribute to the expansion of existing technology within the province, introduce new international marketing expertise to the province, establish new or upgrade existing tourist facilities, provide needed retail or commercial services in rural communities or in other areas where the service is deemed to be required but not provided by local sources.

Contact: Trade Development Division, Saskatchewan Economic Development and Trade (306) 787-2232.

4.11.20 The Economic Diversification and Investment Fund

Purpose: This fund is designed to provide a flexible mechanism to deploy government resources in support of current priority areas. Financial support is tailored to specific project requirements.

Eligibility: The fund can support technology research and development, trade and tourism promotion, entrepreneurial growth as well as specific industrial initiatives warranting support.

Contact: Industrial Development Services Branch, Saskatchewan Economic Development and Trade (306) 787-2232.



4.11.21 Product and Process Development Program

Purpose: This program provides aid to industrial clients to develop and improve both products and processes, principally in agricultural and mechanical disciplines. Expertise and facilities include computer aided manufacturing techniques (CAD/CAM). Staff of this division operate the CAD/CAM robotics centre designed to transfer computer technologies to industry.

Contact: Technology Transfer Branch, Saskatchewan Research Council (306) 933-5411.

4.11.22 Management Consulting Program

Purpose: Consulting staff from this program provide industrial and management consulting services. Consulting staff use overall productivity improvement strategies and have trademarked a specific approach under the name "Cost Leadership". Cost Leadership is a management strategy designed to help business produce products or services at a lower possible cost. Regular sources of management information are supplied to clients through seminars and publications. Seminars sponsored and presented by the program cover topics such as Material Requirement Planning, Industrial Marketing, Cost Leadership, Systems Design, Time Management and CAD/CAM.

Contact: Technology Transfer Branch, Saskatchewan Research Council (306) 933-5411.

4.11.23 Innovation Program

Purpose: This program provides a bridge between product conception, research and development and start up. The staff of this program works closely with the federal Department of Regional and Industrial Expansion and the provincial Department of Tourism, Small Business and Co-operatives to help launch economically viable products in the province.

Contact: Technology Transfer Branch, Saskatchewan Research Council (306) 933-5411.

4.12 NEWFOUNDLAND

4.12.1 Farm Development Loan Board

Purpose: Provides preferred interest loans to encourage the establishment of farm enterprises or for expansion or modernization of existing farms. Preferred interest loans of up to a maximum of \$75,000 are available for farm equipment and buildings, land purchase or development, purchase of livestock, and working capital.

Contact: Department of Rural, Agriculture and Northern Development, Confederation Building, West Block, 4th Floor, PO Box 4750, St. John's, Newfoundland, A1C 5T7 (709) 576-3172

4.12.2 Rural Development Incentives Loans Program

Purpose: Preferred interest loans to encourage the establishment and expansion of small manufacturing, processing, and tourist firms, and industries using primary resources.

Contact: As above.

4.12.3 Youth Entrepreneur Program

Purpose: To encourage entrepreneurs between the ages of 19 and 30 to start permanent small businesses in the province of Newfoundland.

Eligibility: Most types of commercial and industrial ventures are eligible.

Contact: Newfoundland and Labrador Development Corporation, Viking Building, 136 Crosbie Road, St. John's, Newfoundland, A1B 3K3 (709) 753-3560 toll-free 1-800-563-9179

4.12.4 Canada/Newfoundland Burin Peninsula Development Fund Subsidiary Agreement

Purpose: To diversify the economic base of the Burin Peninsula and to provide new employment opportunities for the people in the area.

Contact: DRIE office in St. John's. (709) 772-4590

4.12.5 Rural Development Subsidiary Agreement

Purpose: To strengthen and revitalize the province's rural economy.

Contact: DRIE. (709) 772-4910

4.12.6 Ocean Industry Development Agreement (ERDA)

Purpose: To augment the existing base of government support to lever local supplier development investment in Canada's ocean industry sector; to enhance the technological competitiveness and locational advantages of Newfoundland-based firms and to promote the attractiveness of Newfoundland for Canadian and foreign investments in ocean industry enterprises.

This agreement includes the following programs. Federally funded and administered programs: Ocean Industry Assistance, Marketing/Product Enhancement (Export and Import Replacement), Business and Community Development; and Opportunity Identification/Project Assessment. Provincial programs: Ocean Industry Assistance, Marketing/Product Enhancement (Domestic), Promotional Services. Joint federal/provincial: Innovation and Productivity support.

Contact: DRIE office in St. John's. (709) 772-4871

4.12.7 Tourism Development Sub-Agreement

Purpose: To facilitate the orderly growth of the tourism industry in Newfoundland.

This agreement is made up of the following programs: Travel Generators, Tourism Incentives, Industry Organization, Marketing, Development Counselling and Administration.

Contact: DRIE office in St. John's. (709) 772-4095

4.12.8 Market and Product Development Program (MAPD)

Purpose: To provide marketing and product development assistance in the form of grants to companies planning to market goods or services outside the province, or to replace goods and services being imported. Funds are available for research and development of new products or processes and promotion of new or existing products in new markets.

Eligibility: Any business enterprise in Newfoundland and Labrador producing manufactured goods, processed goods, or products from natural resources, or to consulting services. The program does not normally apply to service groups, associations or government-funded agencies. Companies receiving assistance from other government agencies for the same project are not eligible.

Contact: Government of Newfoundland and Labrador, Department of Development and Tourism, Prospect Development Division, PO Box 4750, St. John's, Newfoundland, A1C 5T7, (709) 737-2781

4.12.9 Retail Sales Tax Exemption Program

Purpose: Available to small businesses engaged in the purchase of machinery or equipment for use in manufacturing and/or processing operations.

Eligibility: Small businesses engaged in manufacturing and/or processing operations.

Contact: Financial Services Division, Department of Development and Tourism, Government of Newfoundland and Labrador (709) 576-5066

4.12.10 Financial Program

Purpose: Encourages small or medium-sized business to locate in Newfoundland, or modernize and/or expand operations in manufacturing, processing, tourism and offshore related services.

Contact: Newfoundland and Labrador Development Corporation (NLDC) (709) 753-3560

4.12.11 Venture Capital Program

Purpose: To encourage the private sector to provide risk capital and management expertise for the start-up of new high-risk business ventures or stabilization and expansion of existing businesses. It will provide an equally important source of management expertise in areas such as financial management, marketing and productivity enhancement.

Contact: Newfoundland and Labrador Development Corporation (NLDC) (709) 753-3560

4.12.12 The Retail Sales Tax Act

Purpose: Provides examples and situations in which companies may be exempt from payment of this tax. For example, electricity, gasoline, fuel oil, and gas purchased by a manufacturer or processor for consumption or use directly in manufacturing or processing.

Contact: Tax Compliance Division, Department of Finance (709) 576-2352

4.12.13 Direct loans and guaranteed loans.

Purpose: To allow fishermen to purchase or build new or used vessels, to buy engines or equipment, and to pay for rebuilding and repairs to vessels.

Contact: Fisheries Loan Board, Department of Fisheries (709) 576-3692

4.12.13 Secondary Processing Interest Subsidiary

Purpose: To promote the establishment and expansion of secondary fish processing facilities.

Contact: Processing Operating Division, Department of Fisheries (709) 576-3736

4.12.15 Fishery Marketing Assistance Program (FMAP)

Purpose: To assist fish companies in the development and marketing of their various products.

Contact: Marketing Service Division, Department of Fisheries (709) 576-3439

4.12.16 Rural Development Incentive Loans Program

Purpose: To help farmers cover the purchase cost of buildings, equipment and cattle and in some cases, provides working capital. Maximum loan \$30,000. Maximum term: 15 years. The program also subsidizes the establishment, expansion or modernization of manufacturing or processing operations and industries utilizing primary resources, and provides low interest loans for small industry development in natural resources, manufacturing and tourism.

Contact: Department of Rural Agriculture and Northern Development, Incentive Grants Division (Federal/Provincial) (709) 576-3184







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## BUSINESS OPERATIONS

### I CANADIAN CUSTOMS REGULATIONS

On January 1, 1985, Canada adopted the international Customs Valuation System. This was a direct result of Canada signing the Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade (GATT), on April 12, 1979, as part of the Tokyo Round of Multilateral Trade Negotiations. The Customs Valuation Code is intended to provide a fair, uniform and neutral system of valuation which conforms to commercial realities. The determination of the value for duty under the code is based on the price actually paid or payable for the goods, as exported to Canada.

In conjunction with adoption of the Customs Valuation Code, on December 1, 1984, Canada proclaimed the Special Import Measures Act which relates to the imposition of anti-dumping and countervailing duties, to amendments to the Currency and Exchange Act, the Customs Tariff and the Export and Import Permits Act, and to the repealing of the Anti-dumping Act.

It appears likely that the Canadian Custom Tariff is moving towards the Harmonized Commodity Description and Coding System. This change is not expected to be effective until early 1988.

#### 1.1 Tariff Structure, Classification and Rates

The Canadian Customs Tariff consists of more than 3,500 tariff items which refer in large part to specific commodities, although some refer to the significant component of a specific commodity. The customs tariff classifies the goods and sets out the rate of duty applicable to each item. Classification of goods is influenced by a large number of different factors - for example, whether the goods are materials, semi-finished or finished, whether they are of a class or kind manufactured in Canada, or whether they are for a particular end use.

The majority of the rates for duty are expressed on an "ad valorem" basis, either as a specific percentage (e.g. 10 percent) or as a specific rate (e.g., 10¢ lb). There are five different rates of duty: British Preferential, United Kingdom and Ireland, Most Favoured Nation, General Preferential and General. Some countries qualify for more than one rate and in such instances the lowest rate would be applied to the goods.

As a result of the latest round of the GATT, the rates of tariffs applied to imported goods are being reduced. The following table illustrates, for selected products, the current most-favoured-nation (MFN) rates and planned reductions after the expiry of the current GATT agreement in December 1987. By then, tariffs on imported manufactured goods from the US (for example) will have declined to an average of about 10 percent.

By the same agreement, some 80 percent of current Canadian exports to the US will be duty-free by 1987, with an additional 10 percent subject to duties of less than five percent.

TABLE 1  
MFN TARIFF RATES FOR SELECTED COMMODITIES, 1985 to 1987  
(percentages)

<u>Commodity</u>	<u>January 1, 1986</u>	<u>January 1, 1987</u>
Man-made yarns	10.0 + 12.8¢/kg	10.0 + 11¢/kg
Woolen fabrics	25.0 + 9.3¢/kg	25.0
Cotton fabrics	15.4	15.0
Agricultural chemicals	free	free
Dyestuffs	free	free
Pigments	12.8	12.5
Steel structural shapes	8.2	7.8
Rubber hose and tubing	12.4	11.3
Bearings <u>not manufactured in Canada</u>	free	free
Bearings also made in Canada	9.9	9.2
Knitted outerwear	25.4	25.0

Source: Revenue Canada, Customs and Excise.

When the value for duty cannot be determined on the basis of the transaction value, the Customs Act provides for five alternative methods of valuation which are to be applied in sequential order. In sequential order, these methods are:

- the identical goods method;
- the similar goods method;
- the deductive method;
- the computed method; and,
- the residual method.

For further information on the transaction value system, please contact: Revenue Canada, Customs and Excise, Assessment Programs, Sir Richard Scott Building, 191 Laurier Avenue, West, Ottawa, Ontario, K1A 0L5. (613) 954-7251.



## 1.2 Anti-Dumping and Countervailing Duties

The Special Import Measures Act provides for the imposition of anti-dumping duties and countervailing duties. Dumping of goods into Canada occurs when the goods are sold to the Canadian importer at a price lower than that in the country of export, given comparable conditions of sale. The amount of anti-dumping duty levied is equal to the margin of dumping of the imported goods. However, before anti-dumping duties can be levied, the Canadian Import Tribunal, which is a court of record, must find that the dumping of such goods has caused, is causing or is likely to cause material injury or retardation to an established industry in Canada.

Countervailing duties, on the other hand, are levied when there is evidence that imported goods of a class or kind made in Canada are subsidized, and that such importation is causing or threatening to cause material injury to existing Canadian production. Countervailing duties are equal to the amount of the subsidy on the imported goods.

Generally, an anti-dumping or countervailing action will commence through the submission of a complaint to Revenue Canada by the manufacturers significantly affected by the dumped or subsidized imports. Revenue Canada will then conduct an investigation into the matter. If dumping or subsidies are determined, and if there appears to be prima facie evidence of material injury to the Canadian industry, the entire matter is referred to the Canadian Import Tribunal. The Canadian Import Tribunal will conduct an investigation into whether or not the dumped or subsidized goods have caused, are causing or are likely to cause material injury to the Canadian industry. During the tribunal's review, Revenue Canada will collect provisional anti-dumping or countervailing duties. If the tribunal determines there is injury, then anti-dumping or countervailing duties will be charged on future importation of the offending goods. If the tribunal finds that there was no material injury, the provisional duty collected will be refunded.

## 1.3 General Customs Regulations

As a general rule, all goods coming into Canada must be declared at the time of entry, and documentation must be complete and presented at the time of entry. It should be noted that relatively few goods are totally prohibited from entry into Canada.

### 1.3.1 Prohibited Goods

The following is a list of some of the categories of goods which cannot be imported into Canada:

- Offensive weapons
- Butter substitutes
- Goods produced in whole or in part by prison labour
- Non-game birds
- White phosphorous matches

- Second-hand motor vehicles and airplanes
- Smoke screen apparatus for use in motor vehicle or water-borne craft
- Second-hand mattresses
- Goods subject to trade marks or copyright restrictions.

Should an importer contemplate importing these goods, further information should be sought from Canada Customs to determine whether or not there are exceptions within the category.

### 1.3.2 Controlled Goods

The importation of certain goods must be controlled to ensure that Canada's standards regarding safety, health and environment are maintained. Some examples of such goods are: dairy products, fish, drugs, liquor, explosives, endangered species and radioactive products. In certain other areas such as textiles, clothing and footwear, quotas have been introduced to lessen the volume of imports and thereby minimize their impact on domestic producers.

Control lists are available from the Publishing Center, Department of Supply and Services, Ottawa, Ontario, K1A 0S9.

### 1.3.3 Labelling

#### 1.3.3.1 Non-food Products

Under the Consumer Packaging and Labelling Act and its regulations, labels on non-food products must provide the following information:

- the identity of the product, usually stated in terms of its common or generic name or its function;
- the net quantity of the product in metric units; and
- the name and location of the manufacturer or the distributor.

Labels affixed to garments and household furnishing fabrics are governed by the Textile Labelling Act and its regulations. This act has three basic requirements:

- disclosure of the fibre content by generic name, stating the percentage composition by weight in both English and French;
- identification of the dealer by whom or for whom the article is manufactured or by whom the article was imported and labelled; and
- disclosure of the country of origin, if the article or any part of it is imported.

1.3.3.2 Food Products

Labels on food products must show the common name and net quantity of the food and the name and address of the company. In addition, a list of ingredients appears on most prepackaged food products. Most prepackaged food products also contain the following information, although not required by statute: "Best Before" date advising at which date the food is no longer at its top quality; how the food should be stored; whether artificial flavouring is in the product; and, if the number of servings is indicated, the size of each serving.

1.3.3.3 False or Misleading Labels

The Consumer Packaging and Labelling Act contains a prohibition against false or misleading statements on the labels of food and non-food products. The act attempts to ensure that claims on a label that are related to the product's performance, quantity, and composition are accurate.

1.3.3.4 General

With certain exceptions, bilingual labelling is mandatory on prepackaged goods in Canada. The Province of Quebec requires that items distributed in that province must have French labels or be accompanied by a French version.

In addition to the bilingual requirement, 60 categories of goods must have the country of origin of the goods clearly and legibly marked on them. If the goods are not properly labelled, they must be so marked on their arrival in Canada. Some examples of the categories of goods which must be labelled with the country of origin are: goods for personal and household use, hardware, novelty and sporting goods, paper and printed products, and wearing apparel.

1.3.4 Entry

The person bringing any goods into Canada must provide Canada Customs with:

- an invoice of the goods showing the place and date of purchase, the name of the person or firm from whom the goods were purchased, a full description of the goods, the quantity and value of the goods; and,
- a bill of entry of such goods, written or printed in duplicate, setting out the name of the importer, the description of the goods, marks, and numbers and contents of the packages, the country from which the goods are imported, the country of origin of the goods, the quantity and the value of the goods.

1.3.5 Transportation

Transportation is a significant factor in determining which rate of duty to apply to the imported goods. For example, goods from Australia which are transshipped through the US would not receive the British Preferential tariff rate, but the higher most favoured nation rate accorded to shipments from the US.

1.3.6 Packaging and Insurance

Packaging charges those which apply in the exporter's domestic market, and insurance charges, if paid by the exporter and passed on to the Canadian importer, must be shown as a separate item from the selling price of the goods. Packaging charges are included in the value for duty, while insurance charges are not dutiable or subject to other taxes.

1.3.7 Drawbacks

The purpose of drawback legislation is to enable Canadian manufacturers to compete more effectively in foreign markets. A drawback of duty and sales taxes paid on goods and materials at the time of importation is allowed when those goods and materials are used in the manufacture of a product which is subsequently exported. Manufacturers in Canada with proven export records may be granted, at the time of entry, remission of duty on imported goods and materials which are to be used in the manufacture of products for export.

In addition, imports of specified plant equipment or key materials used by certain Canadian industries may be subject to duty drawbacks. Drawbacks are also granted on obsolete or surplus goods which were not consumed in Canada, and were destroyed in Canada under customs supervision. Drawbacks are applicable to goods for home consumption such as glass tumblers, woven fabrics, ethnic costumes, paper, pool tables and other items.

1.3.8 International Trade Zone

The first international trade zone in Canada was established at the Sydport Industrial Park in Cape Breton. This allows companies to import materials free of duty, to manufacture or assemble products in Cape Breton and to export these products to other countries (for example, the US). This allows companies to manufacture in Canada at lower cost for export and provides an attractive ingress to the lucrative US market.

1.3.9 Shipments in Bond

Shipments of goods which are destined to be re-exported or which will not be consumed for some time after their arrival in Canada may be placed in a bonded warehouse. This means that the goods are not subject to duty and taxes. However, removing all or some of the goods destined for domestic consumption, the importer must pay these duties and taxes at the time the goods leave the bonded warehouse.



1.3.10 Temporary Importations

Goods which enter Canada only temporarily are subject to a remission of duty. The goods which fall within the "articles for special use" category (samples, articles for repair, entertainment equipment and sideshows, motion pictures, plans, drawings, blueprints and other items) are subject to a remission of all duties and excise taxes payable. Items which are temporarily imported to assist Canadian industry (jigs, dies, patterns, recording equipment, construction equipment of a kind not made in Canada) are dutiable at a rate of 1/60th of the total duty, to be paid each month for the period in which the items remain in Canada.

1.3.11 Machinery Program

The objective of this program is to ensure that Canadian industry can obtain the most advanced equipment available at the lowest possible cost. In so doing, Canadian industry will be able to increase efficiency and competitiveness both in domestic and foreign markets. The program provides for a remission of duty payable on goods classified under certain tariff items. The basis for granting remission is that it is in the public interest (i.e. reduces capital costs for machinery users), or that the machinery is not available from Canadian firms. There are four conditions under which applications for machinery remission will be considered:

- applicant must complete a form titled "Application for Remission of Duty on Imports under Tariff Items 42700-1 and 41100-1" (available at any Customs Office);
- applications can be accepted before importation but no later than 90 days after the date of customs clearance;
- applications by those other than users of the machinery must provide assurances that the remission will be reflected in prices to users; and,
- remission will not be recommended on the first \$500 of the value for duty on machinery eligible for remission covered by any one application.

For more information, please write to: The Secretary, Machinery and Equipment Advisory Board, Revenue Canada, 6th Floor, Connaught Building, Mackenzie Avenue, Ottawa, Ontario K1A 0L5.

1.3.12 Export Controls

As a general rule, there are no special permits required to export goods from Canada. However, under the Export and Import Permits Act, export permits are required for a wide range of goods as described in the Export Control List (ECL), and are required for all export destinations except the US, unless otherwise indicated. The ECL is divided into 10 groups as follows:



Group 1	-	Animals and agricultural products
Group 2	-	Wood and wood products
Group 3	-	General purpose industrial machinery and electronic devices
Group 4	-	Transportation equipment
Group 5	-	Metals, minerals and their manufactured products
Group 6	-	Chemicals, metalloids and petroleum products
Group 7	-	Arms, munitions, military, naval and air stores
Group 8	-	Atomic energy materials and equipment
Group 9	-	Goods originating outside Canada
Group 10	-	Miscellaneous goods and materials

In addition to the ECL, there is an Area Control List (ACL) for which exporters must obtain a permit prior to export. The ACL includes Albania, Bulgaria, Czechoslovakia, the German Democratic Republic and East Berlin, Hungary, Libya, Poland, Romania, the Union of Soviet Socialist Republics, Mongolia, the Democratic People's Republic of Korea and the Socialist Republic of Vietnam.

There are penalties imposed under the Export and Import Permits Act for failure to obtain an export permit.

For further information concerning the definition of specific goods controlled under each category of the ECL, or procedures with respect to obtaining an export permit, please contact: External Affairs, Export Controls Division, Special Trade Relations Bureau, PO Box 481, Station "A", Ottawa, Ontario, K1N 9K6.

## 2 METHODS OF DOING BUSINESS

Canada prides itself on the freedom of its inhabitants and institutions. Investors are able, within general legal principles governing persons, property and obligations, to determine and adopt a business structure best suited to their individual needs. The more common types of business structure are described under "Business Formation".

The most significant restraint on business is anti-trust legislation. Canadian anti-combines legislation seeks to eliminate restrictive trade practices in order to stimulate maximum production, distribution and employment through open competition. Legislation dealing with such measures is found in the Competition Act, passed in 1986, administered by the Department of Consumer and Corporate Affairs (CCA). The Competition Tribunal Act established a quasi-judicial tribunal to hear and determine applications made by the Director of Research and Investigation of CCA with respect to conspiracies, trade practices and mergers affecting competition. The acts provide for updated regulations governing corporate mergers and investigations of anti-competitive practices and abuse of monopoly position. Legislation makes it illegal to operate combines which prevent or unduly lessen competition in production, manufacture, purchase, barter, sale, storage, rental, transportation or supply of an article of trade or commerce or in the price of insurance. While exchange of information between companies is not illegal, prohibited practices include such exchanges if their purpose is to reduce the possibility of increased competition in areas of prices, production quantities or quality, customers, markets or

distribution channels, or if they have the effect of restricting entry or expansion into a business, trade or industry. Any arrangement which affects the volume of export trade is subject to the act. It is illegal to participate in a merger or monopoly which is, or could be, detrimental to the public. No price discrimination or predatory price cutting is allowed. If other buyers are willing to purchase on the same terms and quantities, they must be afforded the same prices. Differential regional pricing is not permitted, if the goal or effect is to reduce competition. Advertising or display allowances made to customers must be offered in proportion to their purchases and any required customer-incurred expenses must be in proportion to purchases. No service may be exacted in return for allowances unless all different types of customers are able to perform that service.

The Competition Act also contains provisions forbidding false or misleading advertising as to price or about the goods or services offered. The resale price maintenance clause holds that the suggested list price be only that. Suppliers are prohibited from prescribing the final sale price of a product, nor can the supplier reduce supplies if a merchant normally does not sell at the suggested price. Exceptions to this provision allow the supplier to cut off supplies if the product is normally sold as a loss-leader, or as bait advertising, or if the merchant is engaged in misleading advertising or fails to provide the service expected by the final purchaser.

### 3 LICENSING AND JOINT VENTURE ARRANGEMENTS

#### 3.1 Licensing

Canada has no organized regime covering licensing. No registration or public disclosure of a licensing arrangement is required. Exclusive licensing arrangements may be reviewable under the Competition Act. However, the type of arrangement depends upon whether it is a restrictive practice and it is suggested that a legal opinion be procured.

Canada has no exchange controls or other restrictions on transfers or payments outside the country, including such items as profits, dividends or royalties. However, Canada has a general withholding tax of 25 percent, which can be reduced to 15 percent or less if payment is made to companies or individuals in any of the countries with which Canada has concluded tax treaties. Licensing agreements are a form of commercial contract, but are not written in any specific form.

If the licence involves a patented product or process, then the licensee must obtain patent rights to market or manufacture the product in Canada or in any other country in which the product is made or sold.

Royalties are generally calculated as a percentage of product sales, but are sometimes based on production (units, volume or weight) or net profit, or are in the form of lump sum payments. In some cases, the licensor may demand minimum performance requirements, with penalties for failure to produce results. In some cases, a licensing agreement is tied in with the purchase of components or machinery from the licensor. This practice may be prohibited, depending on the circumstances, as it falls within the purview of the Competition Act.

### 3.2 Joint Ventures

Joint ventures come about when two or more businesses combine resources in a third business or undertaking for a limited time, defined by contract. Joint ventures may or may not be partnerships, depending upon the ownership of assets and responsibility for debts. There are equity and non-equity joint ventures. A non-equity joint venture occurs when the parties make non-capital contributions to the venture, such as licensing, technical assistance agreements, contract manufacturing or participation in marketing. Equity joint ventures, where the parties invest capital or resources in the new business, can be either incorporated or unincorporated. In the former case, each party becomes a shareholder in the joint venture corporation. The corporation is a legal entity and the parties' roles within it are defined by their contracts, the articles of incorporation and by existing corporate law. The unincorporated joint venture has no identity of its own and is not a separate legal entity, and the parties remain distinct. The unincorporated joint venture is defined by contract. In practice, longer-term joint ventures such as manufacturing ventures are generally incorporated. Unincorporated joint ventures are usually found in construction and resource ventures, which are more limited, one-time or one-contract operations.

One great advantage of a joint venture arrangement is the opportunity for technology transfer between the parties. Another, no less important, is the creation of economic activity possibly in capital spending, creation of a manufacturing entity, development of resources, or work on very large projects where the parties' individual resources would be insufficient to complete the work.

## 4 SELLING AND ADVERTISING IN CANADA

Canada, like the US, but unlike Japan and many European countries, is composed of many diversified and segmented markets. But this phenomenon can easily be overcome by taking advantage of existing communications in order to develop a nation-wide market for a product or service.

Canada is an urban society, with about 75 percent of its population living in larger centres. At least 30 percent live in Toronto, Montreal and Vancouver. All Canadians have access to radio and most are exposed to television. There are two national English language radio networks, the CBC and CKO, and two cross-country English language television networks, the CBC and CTV, supplemented by smaller local networks such as Global in Ontario. While the CBC radio networks (English and French) are non-commercial, most television and radio stations accept advertising. There is one national French language radio and TV network, Radio-Canada (CBC), supplemented by a regional Quebec network, TVA. Advertising through other media (newspapers, magazines) is widely available. All major centres have at least one daily newspaper and often several weekly publications. There are many popular Canadian-produced magazines and specialty publications which can direct advertising to targeted audiences. Advertising is a regulated activity, as described above (see Anti-trust Activity). In addition to federal scrutiny, advertising matter may be subject



to regulation by other levels of government and by trade or manufacturing associations. In Quebec, there is a ban on advertisements aimed directly at children (toys, cereals, etc.). Finally, one should bear in mind that advertising expenses in non-Canadian-owned magazines (e.g. Time, Newsweek) are not tax-deductible under Section 19 of the Income Tax Act.

Proximity to the US is a positive factor. Highly-populated border centres in the US are able to receive Canadian transmissions and some US cable television networks carry Canadian channels, including their advertising. However, most Canadians reside in close proximity to the US and are reached by American advertising. For export to the US, the Canadian transportation system forms an integral part of the North American system via road, rail, air and water.

Sales by a Canadian branch office or subsidiary are subject to the same treatment, including taxes, as any other business in Canada. In Manitoba and Alberta, travelling salesmen from other provinces (or countries) are required to register. A transient trader's licence is generally required for each municipality in which a salesman operates. In several provinces, a provincial transient salesman's licence exempts the employee from municipal taxes. When an intermediary is used to sell a product, such agents are normally required to register in each of the provinces in which they are situated.

Sample products can enter Canada under normal import regulations, subject to applicable tariffs, taxes and duties, unless a customs arrangement or carnet is obtained (this assures that the products are for demonstration and not for sale) or unless brought into Canada for demonstrations, by a sales representative who does not live in Canada. In the latter case, a refundable duty deposit may be required. Samples with commercial value are subject to normal import regulations. Printed advertising can enter the country duty-free, as can individual copies of catalogues and price lists.

## 5 TRADING OPERATIONS

In general terms, the non-Canadian investor may operate in Canada under the same forms of business organization as Canadian investors. No special federal licence or permit is required to conduct an import-export business. However, permits are required for the import or export of certain commodities, under the authority of the Export and Import Permits Act. The prospective importer or exporter must apply to the Special Trade Relations Bureau, Department of External Affairs, Ottawa, Ontario, Canada, KIA 0G2, each time he or she proposes to import or export a controlled item.

Import permits are required for a number of commodities including some dairy products, poultry products, sugar and coffee, various textile and clothing items, and endangered species.

Export permits are required for some goods, especially strategic materials, for shipment to certain specified countries (see above).

The Export and Import Permits Act Handbook, Control Lists, Regulations, etc. are available from the Publishing Centre, Department of Supply and Services, Ottawa, Ontario, Canada, K1A 0S9. Within Canada, goods are able to move freely, subject to provincial and federal regulations regarding specified products.

## 6 STANDARDS, BUILDING, PLUMBING AND ELECTRICAL CODES

Standards in Canada are not set or regulated by any single agency. Federal, provincial and municipal governments are involved, as well as private agencies. Some of the major private agencies are part of the National Standards System of Canada (NSS), an entity organized and co-ordinated by the Standards Council of Canada (SCC).

The National Standards System is made up of private and public organizations concerned with voluntary standardization in Canada.

The Standards Council of Canada operates a Standards Information Service (SIS) to assist users of standards to determine what, if any, standards they should follow. It also identifies the responsible organization and advises where and how standards documents may be purchased or procured. The SIS publishes a directory and index of Canadian voluntary standards compiled by the five standards-writing organizations in the NSS. These organizations are accredited by the Standards Council to establish and publish national standards in Canada and include the Canadian General Standards Board, the Canadian Standards Association, the Canadian Gas Association, the Underwriters' Laboratories of Canada and le Bureau de Normalisation du Québec.

The Canadian General Standards Board (CGSB), recognized by the Standards Council of Canada, is responsible for the development of national standards of Canada in more than 70 subject areas. The CGSB provides administrative expertise and support to the public and private sectors on standards, specifications, qualification and certification matters.

In general, the CGSB is responsible for: consensus standards development; purchasing specifications development; sale of standards and specifications; qualification and certification-listing programs for products and services when deemed necessary by the government; and sale of qualification and certification lists. The CGSB relies on other organizations, including the three levels of government and industry and consumer associations, to assist in the implementation of its programs.

The Canadian Standards Association (CSA) is an independent private organization which is the recognized authority for standards for a wide range of products and services, including: electrical installation, electrical apparatus, and equipment to be used with provincial government approval in construction.



The CSA issues standards covering consumer durables and is recognized as Canada's main standards and product-testing organization. The CSA also helps to establish various construction and maintenance codes and to provide a uniform standard for adoption by provincial authorities throughout Canada. Lack of CSA certification on items determined to be the cause of accidents or fires may void insurance coverage in Canada. Warranties on imported goods lacking CSA approval may be void in Canada, even if such goods are similar to products sold in Canada which have CSA approval.

Building codes are primarily intended to ensure the structural adequacy and fire safety of buildings and to prevent the development of health hazards. A number of provinces have developed uniform building standards based on the National Building Code of Canada, which is gaining widespread acceptance in the country and is often used as the basis for provincial codes. The erection or alteration of a building for commercial or industrial use is normally subject to provincial government control. Drawings and specifications must be submitted to the provincial Department of Labour or equivalent for approval. Municipalities issue building permits for their territories in accordance with their local zoning and building by-laws. Plumbing codes are usually based on the Canadian Plumbing Code, which is a part of the National Building Code.

The Canadian Gas Association (CGA) is an independent organization and is the recognized authority in preparing and establishing standards for gas and propane appliances and equipment. The CGA meets regularly with the federal and provincial governments and with several consumer advisory committees in an effort to draw public awareness of the approved standards established by the CGA.

The Underwriters Laboratories of Canada (ULC) is an independent organization accredited by the Standards Council to develop and publish standards in Canada relating to fire protection and prevention, burglary protection and prevention, general safety standards for buildings and all hazardous materials as they relate to buildings. The ULC is primarily involved with safety standards for industry, rather than consumers.

The Bureau de Normalisation du Quebec (BNQ) establishes and publishes standards, for the most part, for commodities purchased by the Quebec provincial government. These standards include those relating to steel, paint, laboratory equipment and a number of textiles.

It should be noted that standards published by the BNQ are available free of charge, while the other four organizations sell their own publications.

Two organizations which are heavily involved in standards work have entered into liaison with the National Standards System under the designation "Organization in Liaison". These are the Associate Committee on the National Building Code and the Associate Committee on the National Fire Code, both sponsored by the National Research Council of Canada. This is a co-operative effort designed to achieve improved co-ordination of standardization activities in Canada.

One major aspect of standardization is certification. Certification assures that a product meets minimum performance or safety requirements that a committee of users, industry and government representatives considers important.

Certification by one of Canada's five accredited certification organizations indicates that a product has been found to conform with the technical requirements of one of several specific standards. Certification marks are affixed to products made after certification has been granted, and spot checks are performed regularly to ensure that the product continues to meet requirements. Occasionally, certification is made mandatory, usually (like standards) where safety is concerned. For example, the requirements for certification of electrical products are covered by provincial legislation, but typically it is the manufacturer's choice whether or not to have his product certified.

The five accredited certification organizations within the National Standards System are: the Canadian Gas Association (CGA), the Canadian Standards Association (CSA), the Council of Forest Industries (COFI), Underwriters' Laboratories of Canada (ULC) and Warnock Hersey Professional Services (WHPS).

The CSA certifies a diverse selection of electrical products, both consumer and commercial (tools, appliances, office machines). It is concerned with health-care product technology (child-resistant packaging), occupational health and safety (chainsaws, ladders), and public safety (bicycles, hockey helmets, eye protectors for racquet sports), to cite but a few examples.

ULC certification relates to life, fire and property hazards. Products such as fire protection equipment (smoke alarms, fire extinguishers), burglar alarms, chimneys, and fireplace inserts are certified by the ULC.

The CGA writes standards for and certifies gas-fuelled products, such as gas barbecues, swimming pool heaters, gas furnaces and portable camping equipment.

WHSP certifies fire-resistant constructions such as fire doors, fire door frames, and hardware and wall assemblies. COFI is the newest and most specialized certification organization, certifying plywood made from soft woods.

## 7

### DEBT COLLECTION

Bills for products or services in Canada are generally payable on delivery. Other arrangements are not unusual and might involve payment within 30, 60 or 90 days. It is not uncommon for interest to accrue on overdue accounts. Unpaid bills can be pursued through the courts, or accounts may be sold at a discount to debt collection agencies.

8        DOING BUSINESS WITH THE FEDERAL GOVERNMENT

The federal Department of Supply and Services, Supply and Services Administration, acts as the purchaser of goods and services for federal government departments and agencies. There are, however, certain exceptions, listed below:

- a) Each government department and agency has a pre-authorized purchasing limit of \$500 per transaction;
- b) Each government department and agency may enter into a consulting services contract if the amount of the contract does not exceed;
  - i) \$25,000, or
  - ii) \$50,000 provided that at least three proposals have been considered. There are increased spending limits for Supply and Services Canada, the Auditor General of Canada, the Secretary of State for External Affairs (when acting on behalf of the Canadian International Development Agency), and the Commissioner of Official Languages.
- c) Each government department and agency may enter into a non-consulting services contract if the amount of the contract does not exceed;
  - i) \$50,000, or
  - ii) \$100,000 when at least two valid tenders have been received and the lowest tender has been accepted. There are increased spending limits for Supply and Services Canada, Transport Canada, Public Works Canada, the Secretary of State for External Affairs (when acting on behalf of Canadian International Development Agency), and the Commissioner of Official Languages.
- d) Each government department or agency may enter into a construction contract if the amount payable under the contract does not exceed
  - i) \$4,000, or
  - ii) \$200,000 when at least two valid tenders have been received, the lowest tender has been accepted, and the contract is for a firm price. Once again, there are certain departments with higher spending limits - Public Works Canada, Indian and Northern Affairs Canada, Defense Construction (1951) Ltd., Transport Canada, and Environment Canada acting on behalf of Parks Canada.

- e) In contracting non-consulting services contracts and goods contracts, any department or agency may enter into such contracts, regardless of the amount payable under the contracts, if the contract involves a standing offer agreement that has been approved by the Treasury Board. (In a standing offer agreement, a supplier undertakes to supply, on demand, goods or services described in the agreement at the price stated in the agreement and subject to all the other terms and conditions set out in the agreement.)
- f) There are "exceptional contracts" which specifically relate to the activities of certain departments.

Supply and Services Canada has prepared a publication entitled "Selling to Supply and Services Canada" which provides the potential supplier with a good understanding of what is involved in doing business with the federal government. This publication is attached as Appendix I.

For any additional information, please contact: Corporate Relations Branch, Supply Administration, Supply and Services Canada, 16th Floor, Core A1, Place du Portage, Phase III, 11 Laurier Street, Hull, Quebec, (819) 997-2686, Telex: DSS HULL 053-3703.



APPENDIX I

SELLING TO SUPPLY AND SERVICES CANADA<sup>1</sup>

This appendix serves to inform as well as answer the questions most frequently asked by private companies that want to do business with the Federal Government.

The Government of Canada is the biggest buyer in the country. Each year, through its purchasing agent, Supply and Services Canada, the government contracts for billions of dollars worth of goods and services that range from sophisticated fighter aircraft to standard office supplies and from state-of-the-art scientific services to laundering and tailoring.

SUPPLIER REGISTRATION PROCESS

What are source lists?

Supply and Services Canada (SSC) keeps extensive records of the thousands of commodities that are purchased on behalf of departments and agencies of the Federal Government. Matched against these are the names of companies or individuals who have been registered as potential suppliers. These source lists are contained in an automated sourcing system which serves the Supply Program of SSC from coast to coast.

How do I know what goods and services are required by the Federal Government?

Source lists are created to meet known SSC needs. It is possible that, for some commodities you may wish to offer, source lists have not been established. This situation is due either to infrequent procurements, the uniqueness and specialty of the commodity, or that SSC simply does not purchase the items.

There are five categories of goods/services purchased by the Supply Program. They are: Goods; Services related to goods; Services (unrelated to goods); Printing services; Science and technology.

Broad descriptions of these goods/services (except services related to goods) are shown in Appendix IA.

Who can become registered on SSC source lists?

Suppliers registered by SSC are representative of the business community as a whole. Any person, group or enterprise with whom contracts can be legally entered into should investigate the possibility of doing business with SSC. Applicants, however, should be aware that the Federal Government has a Conflict of Interest and Post-Employment Code for the Public Service. If you or any employee of your company is an employee of the Federal Government, or was an employee of the government at the Senior Management level or higher within the last year, this code applies. If this situation

<sup>1</sup> From Supply and Services Canada, Supplier's Guide.



exists, you or your company should declare a potential conflict of interest at the time of your application. Failure to do so may have a significant effect on your potential listings. A copy of the Code is available by mail from: Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Ontario K1A 0S9, Catalogue No. BT53-3/1985.

How do I get my firm registered on the source lists?

Registration of potential suppliers on SSC source lists occurs both regionally and nationally.

If your business is a local one, such as a wholesaler, retailer, service agency or manufacturer, and is constrained by its nature to supplying on a regional basis, you must complete only the Regional Operations Application for Source Listing (form DSS-MAS 10550).

All other businesses, which can supply both regionally and nationally, including all suppliers of printing or writing services, must complete the National Application for Source Listing (form DSS-MAS 10502). Suppliers completing this form will be considered by both Headquarters and the appropriate Regional Office(s) for inclusion on all applicable SSC source lists.

General information:

All data requested on both forms are collected under authority of the DSS Act and are used to establish source records. Information is stored in Personal Information Bank SSC-P10.

Personal information that you provide is protected under the provisions of the Privacy Act.

Provision of the information requested is voluntary. It is necessary however, so that SSC can make a fair registration decision.

At the end of the registration process, you will receive a computer printout which will reflect all source listing action taken by SSC.

Instructions and information on the completion of the two Applications for Source Listings

1. Complete all blocks.
2. Industrial Sector. This refers to the sector which best suits your type of business, and is not meant to identify your clientele. For example, if you manufacture agricultural machinery, the correct sector would be "Manufacturing Industries".

3. Size of Business - means the average employment of any concern including its corporate affiliates in Canada, based on the number of persons employed on full time, part time, temporary, or any other basis for the last 12 months. If a business has not been in existence for 12 months, it means the average employment of the business and its corporate affiliates during the period it has been in existence.
4. Release of Information. Your consent is required for the release of information held in the SSC automated sourcing system to third parties for sourcing purposes. Third parties are identified as other levels of governments i.e. Provincial or Municipal governments. Data subject to release would include: Name and address (bid solicitation points); Language of preference; Expressed export interest; Business size; Industrial sector; Commodities for which you are registered as a potential supplier and associated data, e.g. "manufacturer, agent etc." or "geographic supply capability"; Ownership (country).

ALL FINANCIAL AND SALES DATA WOULD BE EXCLUDED.

5. Suppliers of services related to goods. Follow the instructions related to commodity selection on the form you are completing, and, where applicable, prefix your selection(s) with the code(s) shown below. Services related to goods include:
  - Repair, overhaul, modification, maintenance, calibration (X)
  - Rental - includes short term hire of goods or equipment to meet a temporary requirement subject to possible extension. Maintenance is usually included in the rental. Typical rentals are garden and lawn equipment, construction equipment, office equipment and vehicles. Excludes services such as charters of ships and aircraft. (R)
  - Leasing - includes hire of goods and equipment to meet longer term or continuing requirements as an alternative to purchase. Maintenance terms are normally specified in the lease. (L)
  - Production Design - includes separate design services related to the acquisition of specific goods, but excludes scientific research and development. (D)
  - Installation - as distinct from acquisition. Includes installation of government furnished equipment such as aero engines, equipment in ships and aircraft and other separately identified installation requirements. Excludes installation work covered in acquisition costs and building related installation. (I)

Instructions specific to the Regional Operations Application for Source Listing (form DSS-MAS 10550) ONLY

1. When completing Block 8 (products/services you can supply),
  - refer to Appendix IA
  - find the code(s) and description(s) that best fit your product/service line
  - insert the code(s) and description(s) provided in the appropriate area
  - if you cannot make an association between your products/services and Section II, provide a brief description.
2. Advice and assistance in completing your application is available from your local SSC Office. See this Appendix for addresses and telephone/telex numbers.
3. Return the completed Application to the nearest Regional Office (see this Appendix for addresses).
4. Please note that you may be registered only in the Region in which your business is located. If your firm has more than one branch or franchise in the same city or area, indicate their location for potential listing actions.

Instructions specific to the National Application for Source Listing (form DSS-MAS 10502) only.

1. The Headquarters element of SSC has streamlined and standardized its supplier registration process using a two step procedure. The guiding principle of this process is to capture supplier qualification and commodity data related only to the goods and services that SSC buys on a national basis. This booklet forms part of the first step of the process, which requires you to provide company data, and to relate your product/service line to the broad commodity groupings defined in Appendix IA. The completed Part 1 form is to be returned to: Supply and Services Canada, Sourcing and Materials Priorities Group, (Via Mail) Ottawa, Ontario K1A 0S5, (In Person) Place du Portage, Phase III, 4th Floor, Tower B3, 11 Laurier Avenue, Hull, Quebec.

Upon receipt, a listing of Goods and Services Identification Numbers (GSINs) within your selected broad commodity grouping(s) will be forwarded to you, together with a commodity related questionnaire (Part 2). This second step will enable you to identify precisely, with the GSIN listings, those products/services purchased on a national basis which you feel you can supply. You will also be asked to provide more detailed information to support your requested listings. In some instances, your preliminary selections in Part 1 will not require a more definitive listing. In these cases, the information requirements of Part 2 are sufficient to determine your potential source list registration.

When Part 2 is received by the Sourcing and Materials Priorities Group, the two parts will be brought together and forwarded to Product Managers for a listing decision.

Advice and assistance in completing your application is available, if required, by either visiting the above address or calling (819) 997-5660 and asking for a Sourcing Co-ordinator.

2. Branches or franchised offices can also be registered as bid solicitation points for regional requirements, where the product/service line is the same. By indicating which are to be so designated when completing Block 5, each office avoids having to complete a separate questionnaire.
3. Block 18 - Quality Assurance Program. Many commodities purchased by SSC require a high level of quality and must meet demanding standards or specifications. This block is intended to identify the specific quality assurance method being applied.

Third party recognized programs include Canadian Standards Association (CSA), Z-299; Allied Quality Assurance Publications (AQAP). Former DND 1015 is now AQAP No. 1, DND 1016 is now AQAP No. 4 and DND 1017 is now AQAP No. 9.

4. Block 20. When completing this block, refer to and use the code(s) and description(s) found in Appendix IA. If you have difficulty in associating your product/service line, please call (see 1 above), or provide a brief generic description of the product/service offered.
5. Science and Technology

Individuals, companies or other private sector organizations in the science and technology fields that undertake research and development projects or perform related scientific activities, must refer to the Science and Technology listing (Appendix IA) when completing Block 20.

6. For both steps of the process, careful selection is essential to ensure that your firm is properly listed.

Indiscriminate selection must be avoided to preclude the listing of your firm for goods or services it is unable to furnish.

How will I know what goods and services I am listed for?

At the end of the registration process, the Sourcing and Materials Priorities Group or the applicable Regional Office will notify you of the overall listing decisions.

If you wish at some future date to confirm your listings, simply write or visit any SSC office (see addresses listed in this Appendix).



How is my sourcing information kept current?

Sourcing data maintenance is a dual responsibility. It is in your best interest to regularly review your application and notify SSC of any changes. By doing so, you will not be receiving bid solicitations for commodities you no longer provide and/or the potential for missed opportunities is decreased when your commodity line expands. SSC also conducts regular reviews of its source lists on a 3-year cycle, so you will be receiving periodic requests for updates.

Are suppliers ever removed from source lists?

Yes. Names of supplier are removed from source lists as a matter of course when SSC receives evidence of common occurrences such as:

- the supplier requests removal
- bankruptcy or business failure
- permanent shut down
- fire or other disasters which render the enterprise inoperable for an extended period
- location unknown

Removal of the name of a supplier may also occur when the supplier frequently fails to bid without adequate reason, or does not meet the terms and conditions of contracts. In these cases, the supplier is informed before the removal action is taken, and the reason(s) for such a decision.

Are suppliers ever reinstated once removed from source lists?

Yes. The basic principle is that a decision to remove a supplier from source lists for cause is not considered irrevocable. Once the supplier furnishes satisfactory evidence to support the claim that the circumstances leading to the removal have been rectified, the name will again be added to the applicable source lists.

SELECTING POTENTIAL SUPPLIERS

The Federal Government's contracting regulations are based on the principle of competition. Within this framework, SSC has had a long-standing policy that restricts the solicitation of tenders to Canadian-based firms, providing there is sufficient competition. Some of these preferential measures are circumscribed, however, because of commitments under the General Agreement on Tariffs and Trade (GATT).

The GATT Agreement on Government Procurement requires that each signatory's laws, regulations, procedures and practices regarding government procurement of certain goods and related services not discriminate among products or suppliers from other signatory countries. Thus, Canada is obligated to provide the same treatment to foreign suppliers as to domestic suppliers for those goods and related services covered by the Agreement. More information on the GATT Agreement on Government Procurement is shown below.



Methods of Acquisition

Public advertising is used to fulfill government requirements when it is the most effective means to ensure adequate competitive response. Normally, however, the department solicits bids directly from vendors listed in SSC source lists.

Headquarters

Suppliers are selected from source lists according to priority groups. All suppliers listed in a particular group have the same priority. The priority groups are as follows:

Group 1

- a) Canadian-based manufacturers manufacturing or processing the particular commodity;
- b) Canadian-based manufacturers that do not manufacture the particular commodity in Canada, but are treated for sourcing purposes as if they were domestic companies (this status stems from an agreement between the companies and SSC, based on the scale of economic benefits to Canada);
- c) Canadian-based companies acting as bona fide agents of Canadian manufacturers if such manufacturers do not sell directly to the government or other customers as part of their normal marketing policy, provided such companies offer suitable after-sales services;
- d) With respect to requirements for services; Canadian-based companies providing the particular services.

Group 2

Canadian-based companies acting as bona fide agents of Canadian or foreign manufacturers, when such companies offer suitable after-sales services.

Group 3

Other Canadian-based companies acting as bona fide agents or distributors of Canadian or foreign manufacturers.

Group 4

- a) Foreign-based manufacturers or service companies;
- b) Foreign-based agents;
- c) Foreign governments or selling agencies of foreign governments.

Contracts awarded under the Contracting-out Policy in Science and Technology give highest priority to Canadian industrial performers. Where a Canadian industrial performer cannot be identified, the requirement is contracted to others in the private sector, including universities and non-profit organizations such as provincial governments' research operations.

Regional supply centres and district offices

The departmental policy for regional purchasing limits solicitations to firms located within the area covered by the regional office, when sufficient trade support exists. If necessary, competition for a particular requirement may extend beyond the prescribed area. Then existing source lists are obtained from the other regional offices or from Headquarters, or both.

SOLICITATION OF BIDS

Who can bid on government contracts?

Any person, firm or corporation should explore the possibilities of doing business with the Federal Government. You need only indicate your interest and be prepared to provide evidence that you can supply the required goods or services under the specified terms and conditions.

Where is purchasing done?

In addition to the central purchasing operations in Hull, there are 32 offices located across Canada. The regional offices are specifically charged with satisfying the needs of regional customers and encouraging local suppliers to fill Federal Government needs. Outside of Canada, there are offices in Washington, D.C., Koblenz, Germany and London, England. (See Regional supply centres, districts and sub-offices).

How does the SSC solicit bids?

There are three methods:

An Invitation to Tender is normally used for requirements valued at more than \$25,000, where two or more qualified sources are asked to bid. The contract award is based on the lowest responsive bid and the requirement is fully defined. Bids that deviate from the essential elements, terms and conditions of the Invitation to Tender are considered non-responsive and disqualified. Generally, unclassified Invitations to Tender are opened in public:

A Request for Quotation may be used for requirements valued at less than \$25,000 and is not opened in public;

A Request for Proposal is normally used for non-competitive requirements valued at more than \$25,000 and for competitive requirements where the selection of the supplier cannot be made solely on the basis of the lowest-priced responsive bid. Proposals are evaluated on relevant technical, scientific, financial, managerial, price or socio-economic factors identified in the solicitation. Requests for Proposal are not opened in public.

Is the closing date for bids ever changed?

Yes. In certain unusual circumstances, it may be necessary to extend or shorten the bidding period. The date change can be initiated by SSC or at the request of one or more of the firms invited to bid. Changes to closing times will be considered only when time allows all bidders to benefit equally from the advantages deriving from the changes. Normally, the bidding period will not be amended less than 24 hours before the established closing time.

Under what circumstances may a single source contractor be selected?

Justified circumstances frequently encountered are:

- a) a specific product is required for reasons of logistics, where the introduction of a non-standard item would cause operating and maintenance difficulties or extra costs;
- b) a monopoly of the technology essential to the procurement is held by one firm because of a patent or licensing position, previous specialized experience, or unique machinery and equipment in position to commence production;
- c) the scope of volume of the requirement places it beyond the normal capability of the industry, and special facilities must be provided by the firm with the most related experience;
- d) the requirement is of a very small order that does not warrant the expense of inviting and submitting tenders;
- e) there is clearly only one qualified firm available when all factors and pertinent policies are taken into account;
- f) the claiming of purchase credits accumulated through the rental of equipment or real property makes single source procurement the most cost effective;
- g) the conservation of a particular source is necessary to ensure the fulfillment of future needs of government;
- h) the work is one of pressing emergency in which delay would be injurious to the public interest; and
- i) acceptance of an unsolicited proposal for scientific activities that meets the criteria of sponsorship by another government department, priority, scientific merit and uniqueness in idea, opportunity of capability.

Can modifications, corrections, withdrawals or clarifications be made to a bid?

Bids can be modified, corrected, clarified or withdrawn in writing or by telex, DEX, Rapicom or commercial telegram before the time and date set for closing.

RECEIPT, CUSTODY AND OPENING OF BIDS

If I can't bid through the mail in time, is there any other way to submit a bid?

A quotation may be submitted by telex, DEX, Rapicom or commercial telegram. Include the following information: the bid number, closing date and hour, item number, price, delivery date, FOB point, federal sales tax and any deviation(s) from the original tender document.

In the case of a Request for Proposal, the bidder should contact the SSC officer who solicited the proposal to determine the minimum information required.

For requirements originating from Headquarters, send your telegraphic information to: Director, Corporate Relations Branch, Supply and Service Canada, Telex number DSS Hull 053-3703, DEX 3200 (879) 997-9776, Rapicom 6620 (819) 994-0080.

For requirements originating from one of the SSC regional offices, refer to the listing of regional offices for the appropriate telegraphic number.

A telegraphic bid submitted before closing time should be confirmed immediately in the manner stipulated in the solicitation.

Does SSC accept bids after office hours?

At Headquarters, bids are accepted 24 hours a day. From 8 A.M. to 4 P.M. bids should be delivered to the designated office. After office hours, weekends and holidays, bids can be deposited in a Bid Depository Box located near the commissioner's desk in the main lobby of: Place du Portage, Phase III, 11 Laurier Street, Hull, Quebec.

In the regions, bids are accepted only during office hours.

What security arrangements does SSC have for Handling bids?

When bids are received, they are placed in a double-locked box until the date and time of the official opening at which two witnesses must be present.

Who may be present at public openings?

Anyone may attend public openings.

CONTRACTS

How are contracts awarded?

It is considered that competition establishes a fair price, and that the best way to award a contract is to solicit competitive bids from several suppliers. Although awards are made on the basis of price, other contract terms, including delivery and quality, must be met.



In the case of Requests for Proposal (RFPs), the proposals are evaluated on the basis of pre-established, weighted, evaluation criteria as outlined in the request. The contract is awarded for best over-all value where price is only one factor.

Under what circumstances would a contract be terminated?

A contract may be terminated if a supplier fails to meet the contractual requirements for quality and delivery, or when the requirement for the goods and services ordered no longer exists.

Where is information available on contracts that have been awarded?

For contracts under \$50,000 information is available upon request by specifying the contract number, file number, buyer name and closing date in writing. Refer to regional offices and headquarters directorates.

The Bulletin of Business Opportunities lists successful bidders for unclassified contracts issued by Headquarters for more than \$50,000, and by the regional offices for over \$10,000. This publication is available weekly at a cost of \$153 per year for 51 issues. To subscribe, write to: Canadian Government Publishing Centre, Ottawa, Ontario K1A 0S9.

Information on successful bidders for research and development contracts is published in the monthly Research and Development Bulletin. To be placed on the mailing list, write to: Systems Management Group, Science and Professional Services Directorate, Supply and Services Canada, Ottawa, Ontario K1A 0S9.

What is a standing offer?

A standing offer is a means for permitting user departments and agencies to contract direct with suppliers at pre-arranged prices or pricing methods, and at fixed terms and conditions, for specific periods of time on an "as required" basis.

From the time a standing offer is established, there is no obligation until the department or agency places an order with the supplier. A standing offer is not a contract; the order establishes the contractual obligation.

Realistic estimates of qualities, quantities and value are normally established for each standing offer. However, there is no obligation for the Crown to contract any or all of the estimated usage.

These arrangements are usually restricted to products and services available through outlets near the user departments or agency location. Standing offers are used for items such as pharmaceutical supplies, plumbing supplies, repair and maintenance of equipment, professional services and data processing supplies and services.



Payment policy

Federal Government policy specifies that accounts be paid within 30 days of either the date on which performance of the contract is completed or the date on which the invoice is received by the consignee, whichever is later.

Since April 1, 1986, suppliers automatically receive interest on accounts more than 15 days overdue. It is payable from the day of the due date (the 31st day where the standard payment period of 30 days applies) to the date prior to the date of payment. The allowed rate of interest is the Bank of Canada's rate in effect at the opening of business on the date of payment, plus 1-1/4 percent.

Reduction of conditions

As part of a program to simplify procedures for doing business with the government, a short-form contract with 10 clearly written clauses, covering a single page, was introduced in 1985. Designed for simple procurements, the form can be used for 85 percent of all transactions with SSC. Previously, federal contracts drew upon nine sets of general conditions and eight sets of supplementary conditions, totalling 339 articles.

Employment equity in contracting

On September 1, 1986, the Federal Contractors Program for Employment Equity was implemented with the aim of promoting equality in the employment of women, native peoples, disabled persons and visible minorities. The main element of the program is that for contracts valued at more than \$200,000 suppliers that employ more than 100 people must comply with conditions of the employment equity program in order to be considered. Thus, companies with 100 or more employees will have to certify their commitment to employment equity by signing a certificate that will have to be included in their bids.

Contract dispute settlement

Claims resulting from contract terminations or contract disputes, or both, where additional work may have been done or additional costs incurred, may be resolved through the Contracts Settlement Board. The board acts on behalf of the Minister of Supply and Services and offers a less costly alternative to litigation. The proceedings are informal and rely on bringing a common-sense attitude to problems with a view to finding mutually satisfactory resolutions. The recommendations of the board are not binding on contracts.

Profit policy

The policy governing calculation of profit on negotiated contracts with total costs exceeding \$50,000 is based on return on fixed and working capital employed; general business risk; contractual risk, and contribution to the Canadian Value Added strategy that involves reduction in regional disparities, research and development in Canada, and Canadian content. Total amount of profit as a result of these factors shall not exceed 20 percent of the total contract costs.

Marketing directly to departments

Companies may market their products and services directly to departments. While SSC provides a supply service, it is the departments that determine their requirements and inform SSC of their needs. To assist customers in assessing alternatives to meet requirements, potential suppliers are encouraged to market products and services to interested departments. A list of contacts within each organization is available by writing to: Corporate Relations Branch, Supply and Services Canada, Ottawa, Ontario K1A 0S5 Tel.: (819) 997-2686.

TIPS ON DOING BUSINESS

Companies that supply products or services should tell SSC about them. With approximately 90,000 potential suppliers who can furnish thousands of items and services (and both figures are growing), SSC needs help to keep lists up-to-date at national and regional levels. SSC is particularly interested in learning if companies have developed new products or dropped others.

Contract terms may vary from one requirement to the next. Companies can avoid problems by knowing what is expected of them and what they may expect from SSC. The bid and contract forms spell out mutual legal responsibilities, and companies may clear up any doubts with the purchasing officer. In a desire to be competitive, companies should not overlook things like special packaging, marking, and shipping instructions that may not be routine.

Small companies play a particularly important role in the supply of goods and services to the Federal Government; they are invited to participate in the government procurement program.

Send bids in sufficient time to ensure that they are received before the due date. If more time is needed, request an extension.

To ensure prompt payment, send all invoices to the specified address in the contract. Bill accurately and completely. Follow the contract's invoicing instructions explicitly, as outlined in the contract. Always include the correct reference number(s).

POLICY ON LATE BIDSDefinition and policy

A late bid is a bid received in the specific location designated in the bid solicitation after the stipulated closing date and time. Late bids are not acceptable and are returned unopened to the sender. If a late bid must be opened to determine the name and address of the sender or the nature of the enclosure, a covering letter will explain why it was necessary to open the bid.

A delayed bid is a bid received in the specific location designated in the bid solicitation after the stipulated bid closing date and time because of abnormal delay in delivery, attributed to the Canada Post Corporation or to SSC.

A delayed bid received prior to contract award may be considered provided:

- a) the delay can be SUBSTANTIATED as having been due solely to an abnormal delay in the mail;
- b) it can be SUBSTANTIATED that the bid was received by SSC at the destination indicated in the tender document in sufficient time to be delivered to the specific location designated for the receipt of bids and, in the course of normal internal delivery procedures, would have been received at such location before the closing date and time except for delay due to mistaken handling in SSC.

What is meant by "abnormal delay in the mail"?

For the solicitation of bids and the priorities associated with this exercise, SSC considers that 48 hours (96 hours outside Canada) is an acceptable standard for the delivery of specially marked bid return envelopes to the designated office within SSC.

Therefore, bids mailed in the Canada Post Corporation system less than 48 hours (96 hours outside Canada) prior to closing time and date and received late will not be considered, and will be returned to the sender.

Acceptable evidence of abnormal delay in the mail

The only pieces of evidence acceptable to SSC are a Canada Post Corporation Cancellation Time Stamp or a receipt issued by the Canada Post Corporation CLEARLY indicating the time and date of registration of the specific item of mail.

Postmarks or receipts which show only the date and not both date and time shall be assessed as having been mailed on the date shown at the same time of day and time zone as that designated for the closing bids for that solicitation. Postmarks or receipts showing only a time, but not a date, do not constitute acceptable evidence.

Metered mail

Postage meter imprints, whether imprinted by the supplier or by the Canada Post Corporation, are not acceptable as proof of timely mailing.

Telegraphic bids

Only mistaken handling in SSC will excuse the delay of a telegraphic bid. Mistaken handling by others, misrouting, volume traffic, weather disturbances or any other causes for the late receipt of telegraphic responses are not acceptable to SSC.

Customs clearance

When transmitting a bid that requires customs clearance before SSC takes possession of the bid, it is the bidder's responsibility to allow sufficient time to obtain such clearance before the scheduled bid closing date and time. Such instances cannot be construed as "undue delay in the mail".

Responsibility for delivery of bids

The bidder has the sole responsibility for the timely receipt of a bid and cannot transfer such responsibility to the government.

Withholding award of contract

An appeal by a bidder for reconsideration of a rejected late bid will not constitute grounds for withholding the award of a contract.

SCIENCE AND TECHNOLOGY

The Science Branch of the Supply Operations Sector is responsible for implementing the government's Contracting-out Policy in Science and Technology with its aim of contributing to the enhancement of industrial research and development. Contracts awarded allow the private sector to work on scientific requirements of other government departments, and in so doing, to build the experience, expertise and credibility to improve the firm's capabilities and opportunities. In general, proposals are either solicited directly by using a Request for Proposal, or are advertised in the monthly Research and Development Bulletin (R&D Bulletin). To obtain a copy of the Bulletin, organizations should write to: Systems Management Group, Science and Professional Services Directorate, Supply and Service Canada, Ottawa, Canada, K1A 0S5.

As an adjunct to the Contracting-out Policy, the Unsolicited Proposals Program allows the private sector to submit unsolicited proposals for scientific work which may be of interest to other government departments. The Science Programs Branch of the Science and Professional Services Directorate administers this program and provides for the timely and consistent review of the proposals. Upon receipt of an unsolicited proposal, the Branch distributes it to those government departments that may be interested in the subject matter and requests a response within a reasonable period. To be accepted, a proposal must meet the following criteria:

1. The proposal must be sponsored by a government department (other than SSC) as being within its scientific mandate, and must be of high enough priority for the sponsor to accept financial responsibility for the projects (see next paragraph);
2. The proposal must have scientific merit and technical feasibility;
3. The proposal must be sufficiently unique that SSC can waive its normal competitive procedures. This can mean that the proposal contains an innovative idea or the proposer has a unique capability or opportunity.



If an unsolicited proposal is accepted but the sponsoring department does not have sufficient funds in its current budget to pay for the work, the sponsor can obtain financial assistance from the SSC Unsolicited Proposal Fund to provide bridge funds until the sponsor can assume the financial responsibility. If a proposal is accepted and can be funded, a contract will be negotiated with the supplier.

To obtain more information concerning the various programs, or to make a submission, write to: Director, Programs Branch, Science and Professional Services Directorate, Supply and Services Canada, Ottawa, Ontario K1A 0S5.

Canadian Commercial Corporation

Canadian Commercial Corporation (CCC) is a Crown Corporation owned by the Government of Canada. It was established in 1946 by Act of Parliament to assist in the development of trade between Canada and other nations. CCC reports to the Minister of International Trade.

CCC's principal function is to act as the contracting agency when foreign governments and international agencies wish to purchase goods or services from Canada on a government-to-government basis. Contracting for the corporation is carried out by SSC, the central procurement agency for the Government of Canada. In this way, the customer is assured that the Canadian supplier is considered to be financially and technically capable of conforming with bid specifications, contract terms, and supplier warranties.

To be considered for inclusion in the bidder's source lists, simply indicate your desire to export when applying to SSC for listing as a supplier.

If you wish additional information on export opportunities write to: Canadian Commercial Corporation, Ottawa, Ontario K1A 0S6

GATT AGREEMENT ON GOVERNMENT PROCUREMENT

This Agreement, which represents a significant change from the previous trading climate, is designed to open a substantial portion of government procurement to international competition on a non-discriminatory basis. The countries involved are Canada, the US, Switzerland, Austria, Finland, Norway, Sweden, Japan, Hong Kong, Singapore, Belgium, The Federal Republic of Germany, France, Ireland, Italy, Denmark, Israel, Luxembourg, the Netherlands and the UK.

Although large segments of government contracting, such as service contracts not related to goods, are excluded, this Agreement is an important step toward reducing a major non-tariff barrier to trade. The Agreement has opened, to international competition, a market worth some \$40 billion in purchases annually.



Of particular interest to Canadian producers will be the improved access to the US market. Since January 1, 1981, the US government has waived "Buy America" restrictions for almost all the major US government departments as well as many other agencies and commissions. Important examples are the General Services Administration, the Department of Health, Education and Welfare, non-military purchases of the Department of Defense, the National Aeronautics and Space Administration, the Civil Aeronautics Board and a long list of others. The Agreement covers a wide range of products, from office furniture and machines, to sophisticated electronics equipment and special vehicles. US government agencies alone represent a market of more than \$15 billion.

In addition to the opportunities offered by the US, similar markets are opening to Canadian suppliers under the Agreement in the other countries noted above.

Supply and Services Canada acts as purchasing agent for goods and related services for all Canadian government departments and agencies, and is responsible for applying the provisions of the Agreement.

Suppliers outside of Canada who wish to become eligible competitors in supplying goods to the Government of Canada are invited to submit an application for the products for which they seek qualification. Source listing documentation can be obtained from: Corporate Relations Branch, Supply and Services Canada, Ottawa, Canada, K1A 0S5. Tel: (819) 997-2686

The trade component of External Affairs Canada is helping Canadian exporters to identify specific opportunities arising out of the requirements of other signatories, and to follow the procedure necessary in pursuing this new and important market.

For further information concerning particular markets and opportunities, Canadian exporters should contact: GATT Affairs Division, External Affairs Canada, Ottawa, Canada, K1A 0G2. Tel: (613) 996-2021.

#### SMALL BUSINESS PROGRAM

Among the elements of the Supply and Services Canada Small Business Program is the establishment of procurement groups that seek out contracting opportunities for small business and industry. In addition, the groups map out marketing strategies and put together planning guides to help other procurement officers identify such opportunities. The program also includes other measures to help enhance access to federal contracting. These include improved source-listing procedures that will make it easier for potential suppliers to qualify as bidders, and a reporting system that gathers data on potential sub-contracting business.

#### INDUSTRIAL SECURITY

Suppliers interested in participating in pre-contractual negotiations for which security clearances and visit authorizations are a prerequisite to obtaining access to classified information or restricted areas, national or foreign, should write to: Director, Security Branch, Supply Administration, Supply and Services Canada, Ottawa, Canada, K1A 0S5.

SUPPLIER CONTACT POINTS

STATISTICAL INFORMATION AND DATA MANAGEMENT BRANCH

4th Floor, Core B3  
Place du Portage, Phase III  
11 Laurier Street  
Hull, Quebec  
Tel: (819) 997-5644  
Telex: DSS HULL 053-3703

Bid Receiving Unit  
Core 0A1 (Main Lobby)  
Place du Portage, Phase III  
11 Laurier Street  
Hull, Quebec  
Tel: (819) 997-5651  
Telex: DSS HULL 053-3703  
DEX: 3200 (819) 997-9776  
Rapicom 6200: (819) 994-0080

Postal Address  
Ottawa, Ontario  
K1A 0S5

Supplier Relations  
Tel: (819) 997-2686  
Telex: DSS HULL 053-3703

HEADQUARTERS DIRECTORATE

Place du Portage, Phase III  
11 Laurier Street  
Hull, Quebec  
Tel: DSS HULL 053-3703

Postal Address  
Ottawa, Ontario  
K1A 0S5

Aerospace, Marine and Electronics Systems Directorate

Aerospace and Electronics  
Procurement Branch  
8th Floor, Core C1  
Tel: (819) 997-6290

Marine and Armament  
Procurement Branch  
6th Floor, Core C1  
Tel: (819) 997-6742

Industrial and Commercial Products Directorate

Transportation and Energy  
Products Branch  
7th Floor, Core B3  
Tel: (819) 994-3343

Scientific, Electrical, Mechanical  
and Construction Products Branch  
7th Floor, Core A2  
Tel: (819) 994-4211

Consumer Products and Traffic Management Branch  
9th Floor, Core B3  
Tel: (819) 997-5219

Communications Services Directorate

Communications Services  
Procurement Branch  
1st Floor, Core C2  
Tel: (819) 997-7266

Canadian Government Printing  
Services Branch  
3rd Floor, National Printing Services  
Bureau Building  
45 Sacré-Coeur Blvd.  
Hull, Quebec  
K1A 0S5  
Tel: (819) 997-3086

Expositions, Film & Video Centre  
Expositions Group  
440 Coventry Road  
Ottawa, Ontario  
K1A 0T1  
Tel: (613) 993-1848

Sponsor Program Group  
150 Kent Street  
Ottawa, Ontario  
K1A 0M9  
Tel: (613) 996-7722

Photo Centre Group  
Tunney's Pasture,  
18 Goldenrod Street  
National Personnel Records Centre  
Ottawa, Ontario  
K1A 0M9  
Tel: (613) 990-8245

Media Training Group  
122 Bank Street  
8th Floor, Jackson Building  
Ottawa, Ontario  
K1A 0M9  
Tel: (613) 995-6081

Canadian Government Publishing Centre  
2nd Floor  
National Printing Bureau Building  
45 Sacré-Coeur Blvd.  
Hull, Quebec  
K1A 0S9  
Tel (819) 997-4962

Office Automation, Services and Information Systems Directorate

Procurement Operations Branch  
2nd Floor, Core C2  
Tel: (819) 997-3973

Product Technology and Account  
Management Branch  
3rd Floor, Core C2  
Tel: (819) 997-8784

Science and Professional Services Directorate

Science Programs Branch  
12th Floor, Core C1  
Tel: (819) 997-7428

Science Branch  
12th Floor, Core C1  
Tel: (819) 997-6373

Professional Services Branch  
10th Floor, Core C1  
Tel: (819) 997-7676

Regional Directorates, Supply Centres, Districts and Sub-offices

Atlantic Region Directorate

Supply and Services Canada  
Ralston Building, 6th Floor  
1557 Hollis Street  
Halifax, Nova Scotia  
B3J 1V5  
Tel.: (902) 426-9333  
Telex: DSS HDD MFX 019-22513  
Rapicom 3100: (902) 426-8444

Mailing Address  
PO Box 2252  
Halifax, Nova Scotia  
B3J 3C8

Nova Scotia

Atlantic Region Supply Centre  
Supply and Services Canada  
2 Morris Drive  
Burnside Industrial Park  
Dartmouth, Nova Scotia  
B3B 1S6, Tel.: (902) 426-3881  
Telex: DSS REGSUP DRT 019-31554  
Rapicom 3100: (902) 426-8808

Halifax Sub-Office, CFB Halifax  
Supply and Services Canada  
Building D 155, 3rd Floor  
Halifax, Nova Scotia  
B3K 2X0  
Tel.: (902) 426-4889  
Telex: BASESUPPLY HFX 019-23541

New Brunswick

Saint-John District Supply Office  
Supply and Services Canada  
Room 229, Customs Building  
189 Prince William Street  
Saint John, New Brunswick  
E2L 2B9  
Tel.: (506) 648-4895  
Telex: DSS REGSUO SNB 014-47293  
Rapicom 3100: (506) 648-4376  
Mailing Address:  
Moncton Purchasing Sub-Office  
Supply and Services Canada, P.O. Box 710  
Moncton, New Brunswick, E1C 8M9

Moncton Purchasing Sub-Office  
Supply and Services Canada  
Room 207, Post Office Building  
1075 Main Street  
Moncton, New Brunswick  
E1C 1H0  
Tel.: (506) 338-6020  
Telex: DSS SUO MCTN 016-2663

Newfoundland

St. John's District Supply Office  
Supply and Services Canada  
Building 205, Mitchell Place  
Pleasantville  
St. John's, Newfoundland  
A1A 1S8  
Tel.: (709) 772-5396  
Telex: DSS REGSUO SNF 016-4672  
Rapicom 3100: (709) 772-4603

Goose Bay Purchasing Sub-Office  
Supply and Services Canada  
Building 271  
PO Box 7001, Station "A"  
Goose Bay, Labrador  
A0P 1C0  
Tel.: (709) 896-5911  
Telex: DSS SUPCEN GBAY 016-2240

Prince Edward Island

Charlottetown Purchasing Sub-Office  
Supply and Services Canada  
17 Queen Street, Lowden Building  
Charlottetown, Prince Edward Island  
C1A 4A2  
Tel: (902) 566-7386  
Telex: DSS SUPCHTN 014-44233

Quebec Region Directorate

Supply and Services Canada  
3rd Floor, East Tower  
Guy Favreau Complex  
200 Dorchester Blvd West  
Montreal, Quebec  
H2Z 1X4  
Tel: (514) 283-1310  
Telex: DSS MDO MTL 05-267472  
Rapicom 3100: (514) 283-5504

Quebec Region

Quebec Region Supply Centre  
Supply and Services Canada  
800 Golf Road  
Nun's Island  
Montreal, Quebec  
H3E 1G9  
Tel.: (514) 283-4863  
Telex: DSS REGSUP MTL 05-25425  
Rapicom 3100: (514) 283-5708

Quebec District Supply Office  
Supply and Services Canada  
Room 301  
1040 Belvedere Avenue  
Quebec, Quebec  
G1S 4N1  
Tel.: (418) 694-3151  
Telex: DSS REGSUO QBC 051-3559  
Rapicom 3100: (418) 648-2209

Longue-Pointe Purchasing  
Sub-Office  
Supply and Services Canada  
6769 Notre-Dame Street East  
Montreal, Quebec  
H1N 2E9  
Tel.: (514) 283-8097  
Telex: DSSMASMLP MTL 05-828670

Mailing address:

Supply and Services Canada  
PO Box 6109  
Montreal, Quebec  
H3C 3H7

Mont-Joli Purchasing Office  
Supply and Services Canada  
1534 Jacques-Cartier Boulevard  
Room 201  
Mont-Joli, Quebec  
G5H 2V8  
Tel.: (418) 775-8849  
Telex: DSS MAS MJLI 051-86402  
Rapicom 3100: (418) 775-8403

Laval Purchasing Sub-Office  
Supply and Services Canada  
250 Montée St-François, Bldg. F32  
Laval, Quebec  
H7C 1S5  
Tel.: (514) 661-5987  
Telex: SOLGENMAS VOL 05-268866



Alma Purchasing Office  
Saguenay, Lac St. Jean Region  
Supply and Services Canada  
170 St. Joseph Blvd South  
Alma, Quebec  
G8B 3E8, Tel.: (418) 662-6613  
Telex: DSS PUR ALMA 051-36348  
Rapicom 3100: (418) 662-3398

Central Region Directorate

Supply and Services Canada  
Place du Portage, Phase III, 7A1  
11 Laurier Street  
Hull, Quebec  
Tel.: (819) 997-5757  
Telex: DSS 3029-5011032  
Rapicom 5000: (819) 953-1068

Mailing Address  
Ottawa, Ontario  
K1A 0S5

Ontario Region

Ontario Region Supply Centre  
Supply and Service Canada  
295 The West Mall  
Suite 200  
Etobicoke, Ontario  
M9C 5A4  
Tel.: (416) 626-4666  
Telex: DSS REGSUP TOR 06-217616  
Rapicom 3100: (416) 973-6255

London Purchasing Sub-Office  
Supply and Services Canada  
Dominion Public Building, Room 504  
457 Richmond Street  
London, Ontario  
N6A 3E3  
Tel.: (519) 679-4035  
Telex: IAND LON 064-7127

Downsview Purchasing Sub-Office  
Supply and Services Canada  
c/o CFB Toronto  
Building 151  
Downsview, Ontario, M3K 1Y7  
Tel.: (416) 635-4731  
Telex: DSS DN VW TOR 065-24081

Burlington Purchasing Sub-Office  
Supply and Services Canada  
867 Lakeshore Road  
PO Box 846  
Burlington, Ontario, L7R 3Y7  
Tel.: (416) 336-4974  
Telex: CCIW BUR 061-8296

North York Purchasing Sub-Office  
Supply and Services Canada  
c/o Atmospheric Environment Services  
4905 Dufferin Street  
Downsview, Ontario  
M3H 5T4, Tel.: (416) 667-4929  
Telex: DOE HQAES TOR 06-964582  
Rapicom 3100: (416) 224-4499

North Bay Purchasing Sub-Office  
Supply and Services Canada  
147 McIntyre Street East  
North Bay, Ontario  
P1B 2Y5  
Tel.: (705) 476-4340

## Business Operations

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Thunder Bay Purchasing Sub-Office  
Supply and Services Canada  
Room 322  
Government of Canada Building  
33 Court Street South  
Thunder Bay, Ontario  
P7B 2W6  
Tel: (807) 345-8252  
Telex: DSS PUR THB 07-34257

Kingston District Supply Office  
Supply and Services Canada  
407 Counter Street  
PO Box 6400  
Kingston, Ontario  
K7L 5J5  
Tel: (613) 545-8058  
Telex: DSS KDO KGTN 066-3379  
Rapicom 3100: (613) 545-8067

Pembroke Purchasing Sub-Office  
Supply and Services Canada  
215 Pembroke Street East  
Pembroke, Ontario  
K8A 3J8  
Tel: (613) 735-4158  
Telex: DSS SUP PEM 053-34528  
Rapicom 3100: (613) 735-4521

## Capital Region

Capital Region Supply Centre  
Supply and Services Canada  
1010 Somerset Street West  
Ottawa, Ontario  
K1A 0T4  
Tel.: (613) 995-1121  
Telex: DSS ISC OTT 053-3983  
Rapicom 3100: (613) 995-6512

## Western Region Directorate

Supply and Services Canada  
Harry Hayes Building  
Room 584  
220 - 4th Avenue SE  
PO Box 2950, Station 'M'  
Calgary, Alberta  
T2G 4X3  
Tel: (403) 292-4582  
Rapicom 120: (403) 292-4586

## Manitoba Region

Manitoba Region Supply Centre  
Supply and Services Canada  
100 Otter Street  
Winnipeg, Manitoba  
R3T 0M8  
Tel.: (204) 949-6100  
Telex: DSS REGSUP WPG 07-57734  
Rapicom 3100: (204) 949-7796

Shilo Purchasing Sub-Office  
Supply and Services Canada  
PO Box 160  
Shilo, Manitoba  
R0K 2A0  
Tel.: (204) 765-4779  
Telex: DSS SHILO 07-502797

Business Operations

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Prarie Region

Alberta

Western Region Supply Centre  
Supply and Services Canada  
15508 - 114 Avenue  
Edmonton, Alberta  
T5M 3S8  
Tel: (403) 420-3704  
Telex: DSS REGSUP EDM 037-3960  
Rapicom 3100: (403) 420-3399

Calgary District Supply Office  
Supply and Services Canada  
Room 620  
220 - 4th Avenue SE  
Calgary, Alberta  
T2P 4X3  
Tel: (403) 292-5701  
Telex: DSS REGSUP CGY 038-21884  
Rapicom 3100: (403) 292-4421

Saskatchewan

Regina District Supply Office  
Supply and Services Canada  
Canadian Imperial Bank of Commerce  
Building  
Room 1000  
1867 Hamilton Street  
Regina, Saskatchewan  
S4P 2C3  
Tel.: (306) 780-5601  
Telex: DSS REGSUP REG 071-2731  
Rapicom 3100: (306) 780-6825

Yukon Territory

Whitehorse Purchasing Sub-Office  
Supply and Services Canada  
102 - 307 Jarvis Street  
Mezzanine  
Whitehorse, Yukon Territory  
Y1A 2H3  
Tel.: (403) 668-5808  
Telex: DSS PUR WHSE 036-8-297  
Rapicom 3100: (403) 668-6012

Pacific Region

Pacific Region Supply Centre  
Supply and Services Canada  
12171 Horseshoe Way  
Richmond, British Columbia  
V7A 4Z6  
Tel.: (604) 272-9000  
Telex: DSS REGSUP VCR 043-55731  
Rapicom 3100: (604) 272-9007

Victoria District Supply Office  
Supply and Services Canada  
Room 318  
Canadian Customs House  
816 Government Street  
Victoria, British Columbia  
V8W 1X2  
Tel.: (604) 388-3160  
Telex: DSS DISSUP VIC 049-7380  
Rapicom 3100: (604) 388-3344

Abbotsford Purchasing Sub-Office  
Supply and Services Canada  
33344 King Road  
Abbotsford, British Columbia  
V2S 6E2  
Tel.: (604) 854-2516  
Telex: DSS REGSUP VCR 043-55731

Business Operations

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Marine and Industrial Machinery  
Procurement Division  
120 Lonsdale Avenue  
North Vancouver, British Columbia  
V7M 2E8  
Tel: (604) 666-3216  
Telex: DSS MARINE VCR 043-52735

Marine and Industrial Machinery  
Procurement Division  
Mezzanine Floor  
816 Government Street  
Victoria, British Columbia  
V8W 1W9  
Tel: (604) 388-0286  
Telex: DSS DISSUP VIC 049-7380

European Region

England

European Region Supply Centre  
Canadian Government Department of  
Supply and Services  
MacDonald House  
No. 1 Grosvenor Square  
London, W1X 0AB  
England  
Tel.: 011-44-1-629-9429 437-612  
Telex: DSS LDN  
(Via External Affairs)  
Rapicom 3100: 011-44-1-491-3968

Germany

Canadian Government Department of  
Supply and Services - Koblenz  
5400 KOBLENZ  
Mainzer Strasse 39  
Postfach 566  
Federal Republic of Germany  
Tel: 011-49-261-1-7054  
Telex: 081661 BWB KOBLENZ

Washington Region

Director of Supply  
Washington Region  
Supply and Services Canada  
Canadian Embassy  
2450 Massachusetts Avenue NW  
Washington, DC 20008, US  
Tel.: (202) 483-5505  
Telex: 008-9532 (CAN DSS ITC WSH)  
Rapicom 3100: (202) 485-5520

Germany

Canadian Government Supply Sup-Office,  
Lahr  
Supply and Services Canada  
c/o HQ CF EUROPE  
CFPO 5000  
7630 Lahr/Schew  
Federal Republic of West Germany  
Tel: 011-49-7821-37864

GOODS AND SERVICES PURCHASED BY THE GOVERNMENT OF CANADA

## GOODS CATEGORIES

DESCRIPTION

Abrasives	Dental wupplies
Adhesives	Detection equipment
Agricultural equipment	Docks, floating
Agricultural machinery	Drying equipment
Agricultural supplies	Electrical equipment components
Air circulating equipment	Electric wire
Air conditioning equipment	Electronic equipment components
Aircraft accessories	Engine accessories
Aircraft; and airframe structural components	Engine components
Aircraft components	Engines
Aircraft ground Handling Equipment	Excavating equipment
Aircraft landing equipment	Explosives
Aircraft launching equipment	Fabricated materials, nonmetallic
Alarm systems	Fibre optics accessories
Ammunition	Fibre optics assemblies
Animals, live	Fibre optics components
Apparel	Fibre optics materials
Athletic equipment	Fire fontrol equipment
Automatic data processing equipment, (including firmware)	Fire tighting equipment
Automatic data processing software	Fixtures, lighting
Automatic data processing supplies and Support (general purposes)	Flags
Bearings	Floating eocks
Books	Food (subsistence)
Brushes	Food preparation equipment
Building materials	Food serving equipment
Cable and cable fittings	Fuels
Chain and chain fittings	Furnace
Chemicals	Furniture
Chemical products	Furs
Cleaning equipment	Ground effect vehicles
Cleaning supplies	Guided missiles
Clothing	Hand tools
Coherent radiation equipment	Hardware
Commercial appliances	Heating equipment
Commercial furnishings	Highway maintenance equipment
Communication equipment	Home type radios
Compressors	Hose and hose rittings
Construction equipment	Household appliances
Construction materials	Household furnishings
Containers	Individual equipment
Crude materials, nonmetallic	Insignia
Cycles	Instruments
Dental equipment	Instruments, musical
	Laboratory equipment
	Lamps
	Leather



DESCRIPTION

Lighting fixtures	Repair shop equipment
Live animals	Rescue equipment
Lubricants	Rope, and rope fittings
Lumber	Safety equipment
Maintenance and repair shop equipment	Sanitation equipment
Maps	Scaffolding
Marine equipment	Sealers
Materials handling equipment	Security detection sytems
Measuring tools	Service equipment
Mechanical Power transmission equipment	Serving equipment, food
Medical equipment	Sewage treatment equipment
Medical supplies	Ship equipment
Metal bars	Ships
Metal shapes	Shoe rindings
Metal sheets	Signal systems
Metalworking machinery	Small craft
Millwork	Space vehicles
Minerals, and their primary products	Special industry machinery
Mining equipment	Steam plant
Miscellaneous	Structures, prefabricated
Motor vehicles	Subsistence (food)
Musical instruments	Tents
Nonmetallic crude materials	Text processing systems
Nonmetallic fabricated materials	Textiles
Nuclear reactors	Tires and tubes
Office devices	Toiletries
Office machines	Tools, hand
Office supplies	Tools, measuring
Oils	Tractors
Ores and their primary products	Trade equipment
Packaging supplies	Trailers
Packing supplies	Training aids
Paints	Training devices
Phonographs	Tubes and tires
Photographic equipment	Tubing and tubing fittings
Pipe, and pipe fittings	Turbine components
Plumbing equipment	Turbines
Plywood	Valves
Pontoons	Vehicles, Ground effect
Power and power distribution equipment	Vehicles, motor
Prefabricated structures	Vehicular equipment components
Preparation equipment, food	Veneer
Publications	Veterinary equipment
Pumps	Veterinary supplies
Radios, home type	Visible record equipment
Railway equipment	Water purification equipment
Recreational equipment	Weapons
Refrigeration equipment	Woodworking equipment
	Woodworking machinery
	Waxes

SERVICES CATEGORIES

Accommodation and food (includes rental of dwellings, hotels)  
Agricultural services  
Audio-visual and photographic services (includes scale models, displays and special arts requirements)  
Building/installation special trade services (includes repairs, maintenance, demolition, etc.)  
Business services (includes building cleaning and janitorial, temporary help, data processing, testing, security and machine shop services)  
Commercial air services  
Communications services  
Construction  
Consulting/professional services (includes engineering services)  
Educational services  
Financial, insurance and real estate services (includes building rental)  
Health and welfare services (includes recreational services)  
Personal services (includes laundry, shoe repair and tailoring services)  
Printing services  
Science and technology  
Surveying and mapping services  
Transportation and charters  
Utilities (electricity, water, gas and sanitary services),  
    (includes snow removal)











## INTELLECTUAL PROPERTY IN CANADA

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## INTELLECTUAL PROPERTY IN CANADA

Intellectual property in Canada is protected by federal legislation. Specifically, there are four acts which safeguard such intellectual property as inventions (Patent Act), trademarks (Trademarks Act), literary, dramatic, musical or artistic works (Copyright Act), and industrial design (Industrial Design Act). Each of these acts is administered by the Intellectual Property Directorate of the Department of Consumer and Corporate Affairs.

### 1 PATENTS

A patent is a grant from the Government of Canada which gives an inventor the right to exclude others from making, using or selling an invention in Canada. An invention is any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement to any process, machine, manufacture or composition of matter, which was not obvious to a person skilled in that field of technology at the time the invention was made.

There are two purposes served by the patent system. The first is to give protection to inventors so that they have exclusive use of their invention for a period of 17 years. The second purpose is to provide public disclosure of the invention so that others can use it when the patent expires, and to provide stimulus to others to make improvements.

There are several types of inventions for which there is no patent protection. These include methods of doing business, scientific theorems and computer programs, although a recent court case has extended the Copyright Act to cover computer software. The court case is subject to appeal.

Canada is now in the process of amending its Patent Act. The amendments should become law in 1987. Among the proposed changes are:

- ratification of the Patent Cooperation Treaty;
- earlier publication of patents;
- switching from "first to invent" to a "first to file" system;
- switching from "relative" to "absolute" novelty and reducing the grace period from two years to one year;
- switching from an "automatic" to a "deferred" examination system;
- increasing the term of probation from 17 to 20 years;
- introducing renewal fees with a lower rate for small business;
- introducing recording of licenses.

In order to obtain patent protection, it is necessary to file an application with the Commissioner of Patents, 50 Victoria Street, Hull, Quebec, Canada, K1A 0C9. The application must comply with the requirements of the Patent Act and the Patent Rules.

An applicant who is not a resident of Canada, or who does not maintain an address in Canada, must, at the time of filing an application, nominate a Canadian resident to act as representative for service. This representative is the person upon whom notices of proceedings will be served after the patent is issued. In addition to the nomination of the representative for service, the Patent Office will require a letter from the representative stating that he or she is willing to act in this capacity. This representative for service does not act as agent for the prosecution of the application before the Patent Office, unless the representative is also a registered Canadian patent agent, appointed to act as patent agent for the application.

For further information, please contact: Commissioner of Patents, 50 Victoria Street, Hull, Quebec, Canada, K1A 0C9, TELEPHONE: (819) 997-1936

## 2 TRADEMARKS

A trademark is a word, symbol or picture, or combination of these, used to distinguish the goods or services of a person or organization from the goods or services of others in the marketplace. The right of ownership of a trademark is created through the use of the trademark in association with the goods or services in Canada. Registration of the mark is not mandatory, but ownership is more easily protected if it is registered.

The Trademarks Act specifies a number of types of trademarks which cannot be registered, for example, coats of arms of the royal family and national flags.

A trademark is registered for a term of 15 years and can be renewed for further periods of 15 years without limitation.

An applicant who is not residing in Canada, or does not have an office or place of business in Canada, must at the time of filing an application nominate some person or firm to whom any notice in respect of the application or registration may be sent, and upon whom notice in any proceedings in respect of the application or registration may be given or served.

The address for further information or for filing an application is: Registrar of Trademarks, 50 Victoria Street, Hull, Quebec, Canada, K1A 0C9, TELEPHONE: (819) 997-2430



3 COPYRIGHT

A copyright is the legal recognition of the creator's sole right to the use of his/her work and to share in the benefits derived from the use of this work. In Canada, it is not a requirement to register the copyright, but it is advisable to do so in order to provide prima facie evidence of the copyright ownership. Original works which are protected by copyright include literary, dramatic, musical and artistic categories. The Copyright Act also extends to sound recordings and cinematographic productions. There are several other subjects which may have some protection under the Copyright Act, such as computer programs, computerized information storage and retrieval systems, performers' performances, broadcasts, and blank forms.

The copyright for written work is for the lifetime of the author plus 50 years. The term of copyright for sound recordings and photographs is 50 years from the date of the original plate or negative.

It is likely that the Copyright Act will undergo major changes over the next 12 months so as to bring it in line with property concerns related to developments in new technologies.

The address to obtain further information or application forms, or to file for registration is: Copyright and Industrial Design Office, Consumer and Corporate Affairs Canada, 50 Victoria Street, Hull, Quebec, Canada, K1A 0C9 (819) 997-2430.

4 INDUSTRIAL DESIGN

Canada's Industrial Design Act affords protection for articles of manufacture which have original features of shape, configuration, pattern or ornamentation. Examples of items registered under this act include the shape of furniture, jewellery and bottles, as well as the patterns of textile fabrics and wallpaper.

Any industrial design may be registered by filing an application with the Commissioner of Patents. The term is five years, with the option for one renewal for an additional five years.

The address for more information or to file an application is: Copyright and Industrial Design Office, Consumer and Corporate Affairs Canada, 50 Victoria Street, Hull, Quebec, Canada, K1A 0C9, (819) 997-2430.

5 OTHER POINTS

For those contemplating applying for a patent or the registration of an industrial design or a trademark, it may be useful to obtain the services of a registered patent agent or a registered trademark agent. These agents are required to meet standards of professional expertise and are knowledgeable of the requirements of Canadian law. A list of such agents may be obtained by writing to the Commissioner of Patents.







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## BUSINESS TRIPS TO CANADA

### 1 VISAS AND OTHER FORMS OF CERTIFICATES UPON ENTRY TO CANADA

Persons wishing to visit Canada are required to be in possession of a valid passport (except citizens of the US, US citizens or landed immigrants entering Canada from St. Pierre and Miquelon, citizens of France residing in and entering from St. Pierre and Miquelon, or persons residing in and entering from Greenland), sufficient funds to maintain themselves while in Canada, and evidence of onward transportation. Some persons will require a visa to enter Canada. Visitors should direct their enquiries regarding visa applications and valid travel documents to the Canadian high commission, embassy, or consulate in their home country.

The following persons do not require a visa to enter Canada:

- Citizens of Andorra, Antigua and Barbuda, Argentina, Australia, Austria, Bahamas, Barbados, Belgium, Belize, Bolivia, Botswana, Brunei, Costa Rica, Cyprus, Denmark, Dominica, Fiji, Finland, France, Federal Republic of Germany, Greece, Grenada, Honduras, Iceland, Ireland, Israel, Italy, Japan, Kenya, Kiribati, Lesotho, Liechtenstein, Luxembourg, Malawi, Malaysia, Malta, Mexico, Monaco, Nauru, The Netherlands, New Zealand, Nicaragua, Norway, Panama, Papua New Guinea, Paraguay, San Marino, Saudi Arabia, Seychelles Republic, Singapore, Solomon Islands, Spain, St. Kitts and Nevis, St. Lucia, St. Vincent, Surinam, Swaziland, Sweden, Switzerland, Tonga, Trinidad and Tobago, Tuvalu, United States, Uruguay, Vanuatu, Venezuela, Western Samoa, Zambia and Zimbabwe;
- British citizens and British overseas citizens who are readmissible to the United Kingdom; or,
- Citizens of the British dependent territories who derive their citizenship through birth, descent, registration or naturalization in one of the British dependent territories of Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Falkland Islands, Gibraltar, Hong Kong, Montserrat, Pitcairn, St. Helena, or the Turks and Caicos Islands.

#### 1.1 Entry Via the US

All persons other than US citizens, or legal, permanent residents, require a valid passport or an acceptable travel document, and some persons will require a visa to enter Canada from the US. Visitors should direct their enquiries regarding visa applications and valid travel documents to the Canadian high commission, embassy or consulate in their home country before departure for the US. Only in emergency situations should applications be made to Canadian consulates in the US located in Atlanta, Boston, Buffalo, Chicago, Cleveland, Dallas, Detroit, Los Angeles, Minneapolis, New Orleans, New York City, San Francisco and Seattle, or to the Canadian embassy in Washington.

Visitors who wish to return to the US after visiting Canada should check with an office of the US Immigration and Naturalization Service to make sure they have all the necessary papers to get back into the US

Visitors under the transit-without-visa privilege must establish:

- that they are admissible to the US under immigration laws;
- that they have confirmed onward reservations to Canada; and,
- that they will continue their journey on the same line or on a connecting line within eight hours after their arrival in the US. Such travellers cannot transfer to a connecting transportation line more than twice. The second form of transportation must depart for a foreign location (but not necessarily non-stop). The total period of waiting time for connecting transportation should never exceed eight hours, unless there is no scheduled transportation within that period. In such a case, the traveller must continue his journey on the first available form of transportation.

## 2 LETTERS OF CREDIT

Businessmen conducting business in Canada may require letters of credit from their home banks, which will have corresponding relationships with banks in the Canadian cities concerned. Bankers are pleased to arrange the necessary letters of introduction.

## 3. CUSTOMS FORMALITIES

### 3.1 Personal Baggage, Recreational Equipment

Visitors may bring certain goods into Canada as personal baggage duty- and tax-free, provided all such items are declared to Canada Customs on arrival and are not subject to restriction. Personal baggage may include such items as: fishing tackle, boats and motors, snowmobiles, etc.; equipment for camping, golf, tennis, scuba diving; radios, television sets, musical instruments, typewriters, cameras, and other items of a personal nature to be used in Canada during the visit. Consumable goods may also be included in the quantities listed below.

#### 3.1.1 Alcoholic Beverages

If visitors meet the minimum age requirements of the province or territory of entry (19 years in British Columbia, New Brunswick, Newfoundland, Northwest Territories, Nova Scotia, Ontario, Saskatchewan and Yukon; 18 years in Alberta, Manitoba, Prince Edward Island and Quebec) they may bring into Canada, duty-free, either 1.1 litres (40 ounces) of liquor or wine, or 24 x 355 milliliters (12 ounces) cans or bottles of beer or ale, or its equivalent.

Additional quantities of alcoholic beverages - up to a maximum of nine litres (two gallons) - may be imported into Canada (except to Prince Edward Island and the Northwest Territories) on payment of duty and taxes, plus provincial fees at the port-of-entry.

3.1.2 Tobacco Products

Persons 16 years of age or over may bring into Canada, duty-free, 50 cigars, 200 cigarettes or 1 kg (2.2 pounds) of manufactured tobacco. Federal duty and taxes apply to additional quantities.

3.1.3 Gifts

Genuine gifts may be sent to friends or relatives residing in Canada, or may be imported by visitors, duty- and tax-free, providing the value of each gift does not exceed \$40 (Canadian), and the gifts do not consist of tobacco products, alcoholic beverages or advertising material. Gift packages sent by mail should be plainly marked "UNSOLICITED GIFT" and the value should be indicated.

Gifts valued at more than \$40 (Canadian) will be subject to regular duty and taxes on the excess amount.

3.1.4 Security Deposit Requirements

Conveyances and personal goods may be imported temporarily into Canada by visitors for their own use without payment of duties or taxes. With the exception of consumable items or recreational equipment for which a seasonal permit has been obtained, all goods must be taken out of Canada at the conclusion of the visit. In some instances, it may be necessary for customs to ensure that an item is re-exported and, for this purpose, a refundable security deposit is requested at the time of entry. The deposit is refunded to the visitor's home address after the item or items are taken out of Canada. A security deposit is normally a nominal amount, but may be as high as the amount of duty and tax which otherwise applies. However, as a general rule, Canada Customs does not require security deposits when travellers enter Canada with their goods solely for vacation or pleasure purposes.

3.2 Entry by Private Motor Vehicle

The entry of vehicles and vacation trailers into Canada for touring purposes is generally a quick and routine matter. Canada Customs permits, if required, are issued at time of entry. Rental vehicles or trailers of the U-Haul variety are also admissible. However, the vehicle registration forms should be carried, together with a copy of the rental contract, to indicate that use in Canada is authorized by the rental agency. Visitors entering Canada with vehicles not registered to themselves should carry a letter from the owners to indicate that use of the vehicle is authorized.



If a security deposit is deemed necessary, the amount required is generally nominal and ranges from \$100 to \$500 (Canadian funds). As an alternative to the posting of security in Canada, visitors may obtain a "Carnet de passage en douane" in their country of domicile before they leave home.

Animals, food and plants which are brought into Canada for personal rather than commercial use are subject to regulations set out by the federal department of Agriculture and Health and Welfare Canada. These regulations are administered by customs officers at the border.

### 3.3 Business Trips, Conventions and Meetings

Business people visiting Canada may wish to import printed material, commercial samples, blueprints, charts, audiovisual material and playback or projection equipment, etc. Depending on the length of the visit, the items brought in, and the use which will be made of them in Canada, the temporary entry of such material may be subject to the full rate of duty and tax or a portion thereof, or may be duty- and tax-free. In cases where the goods are eligible for free entry, a refundable security deposit may be required by Canada Customs.

In the case of congresses and conferences, most materials required to stage such events are allowed entry into Canada without payment of duties or taxes. Display goods for exhibit at congresses or conferences - which are normally eligible for free entry - may also require a security deposit which is refundable.

For both general business purposes and congresses or exhibits, the ATA (Admission Temporaire - Temporary Admission) Carnet offers an alternative. Carnets are issued by foreign chambers of commerce or associations affiliated with the International Chamber of Commerce for the temporary admission of goods. With an ATA carnet, payment of duties and taxes is guaranteed, and no other security is required by Canada Customs. The goods must, however, be admissible under the temporary entry legislation currently being applied by Canada Customs. It is recommended that, before entering Canada on business, visitors contact a Canadian high commission, embassy or consulate to establish temporary entry requirements for goods they plan to import. Officials will also provide guidance as to whether or not employment authorizations are necessary. These precautions will avoid delays on entry into Canada.

### 3.4 Canada Customs - Regional Offices

#### Atlantic Region

6169 Quinpool Road  
Halifax, Nova Scotia  
B3J 3G6  
(902) 426-2911

#### Quebec

130 rue Dela jonquière  
CP 2267  
Quebec City, Quebec  
G1K 7P6  
(418) 648-3881



Business Trips

- 5 -

Montreal

400 carré Youville  
Montreal, Quebec  
H2Y 3N4  
(514) 283-2953

Toronto

Manulife Centre, 10th Floor  
55 Bloor Street West  
Toronto, Ontario  
M5W 1A3  
8:00 AM - 4:30 PM  
(416) 973-8022  
evenings and weekends  
(416) 676-3643

London

457 Richmond Street  
PO Box 665  
Station B  
London, Ontario  
N6A 4Y4

Winnipeg

Federal Building  
269 Main Street  
Winnipeg, Manitoba  
R3C 1B3  
(204) 949-3764  
Airport (204) 949-6004

Alberta

220-4th Avenue S.E., Ste. 720  
PO Box 2970  
Calgary, Alberta  
T2P 2M7  
(403) 250-0295

Ottawa

360 Coventry Road  
Ottawa, Ontario  
K1K 2C6  
8:00 AM - 4:30 PM (613) 993-0534  
after 4:30 PM and weekends  
(613) 998-3326

Hamilton

10 John Street South  
PO Box 989  
Hamilton, Ontario  
L8N 3V8  
weekdays  
(416) 572-2891  
evenings and weekends  
(416) 679-6202

Windsor

185 Quellerie Street  
Windsor, Ontario  
N9A 4H8  
Monday to Friday  
8:30 AM - 4:30 PM  
(519) 254-9202 (extensions 254, 255)  
evenings and weekends  
Bridge (519) 254-7271  
Tunnel (519) 254-3575  
Airport (519) 969-2360

Saskatchewan

204 Towne Square  
1919 Rose Street  
Regina, Saskatchewan  
S4P 3P1  
(306) 780-6212

Pacific

1001 West Pender Street  
Vancouver, British Columbia  
V6E 2M8  
(604) 666-0545

Canada Customs services at all points-of-entry are offered in both English and French.

For Further Customs Information: If you have questions about customs regulations which are not covered here, please write to: Revenue Canada, Customs and Excise, Public Relations Branch, Ottawa, Ontario, Canada, K1A 0L5, (613) 957-0275.

#### 4 THE CLIMATE AND WHAT TO WEAR DURING YOUR VISIT

Because of Canada's expanse, climatic conditions vary widely, and only very general information can be given. In summer, hotels, restaurants, theatres, cinemas and stores are frequently air-conditioned. In winter, all private and public buildings, railway stations and bus terminals are heated, and all main highways are cleared of snow.

Although days in summer are warm, evenings may be cool, and visitors planning fishing, camping or canoeing trips should bring medium- and heavier-weight apparel in addition to summer clothing.

##### 4.1 General Weather Information and Seasons

Spring - mid-March to mid-May

Autumn - mid-September to mid-November

Summer - mid-May to mid-September

Winter - mid-November to mid-March

<u>Month/Weather</u>	<u>Suggested Clothing and Remarks</u>
May Warm days but cool at night	Medium-weight and summer apparel. Enjoyable time for those who prefer spring travel. The country is green and spring flowers are in bloom generally by mid-month (earlier on the west coast). Outdoor activities begin.
June Warm	Summer clothing with some medium-weight apparel for cool evenings. Ideal for travel and all outdoor summer activities. (Note: insect repellent is a must for bush travel.)
July and August Warmest months of summer	Light-weight summer clothing. Ideal for travel and enjoying summer activities.
September Warm days, cool evenings	Light- to medium-weight clothing. Ideal for autumn travel and photography, as foliage takes on fall colouring toward end of month.
October Cool	Medium- to heavy-weight apparel. First touch of frost in the air. Excellent weather for travel and photography of foliage. Autumn colours at their peak early in the month.
November Cool - frosty	Medium- to heavy-weight apparel. First signs of snow. Travel at this time is good. Motorists should have cars winterized and snow tires are recommended.
December, January and February Winter temperatures	Winter apparel (overcoat, hat, boots, gloves). Heavy snowfall in most provinces. Excellent months to enjoy the many winter sports activities. Cars should be winterized and snow tires are recommended. (Note: all main highways and city roads are snowplowed during the winter months.)

March	Winter apparel with some medium-weight wear.
Moderating	Snow begins to disappear; however, outdoor activities can still be enjoyed in winter resort areas. Winterized cars with snow tires recommended.
April	Medium-weight apparel including topcoat. Snow disappears, except in higher mountainous areas where conditions are ideal for spring skiing.
Milder days but evenings cool	

NOTE: Weather information is given for the southern areas of Canada. In the northern territories, the climate is somewhat cooler, particularly in the winter months. The climate is moderate during the months of June, July and August.

## 5 STANDARD TIME ZONES IN CANADA

### 5.1 Local Time

As the second largest country in the world, Canada spans six different time zones, as indicated below.

TABLE I  
MAJOR LOCATIONS, BY TIME ZONES

<u>Local Time (PM)</u>	<u>Time Zones</u>	<u>Canadian Cities</u>	<u>Corresponding US Cities</u>
2:00	Pacific Standard	Whitehorse Vancouver Victoria	Seattle San Francisco Los Angeles
3:00	Mountain Standard	Yellowknife Edmonton Calgary	Salt Lake City Denver Phoenix
4:00	Central Standard	Winnipeg Brandon Saskatoon Regina	Chicago Kansas City Tulsa Dallas Nashville
5:00	Eastern Standard	Quebec City Montreal Ottawa Toronto	Boston New York Detroit Cincinnati Atlanta Miami
6:00	Atlantic Standard	Halifax Charlottetown Fredericton	
6:30	Newfoundland Standard	St. John's Cornerbrook	

5.2 Daylight Saving Time

Each year, on the first Sunday in April, Daylight Saving Time comes into effect in Canada and all clocks are advanced by one hour. On the last Sunday in October, Canada reverts to Standard Time. Daylight Saving time is not observed over most of the province of Saskatchewan; the transition from Central Daylight Time to Mountain Daylight Time therefore occurs at the Manitoba-Saskatchewan border.

6 CURRENCY

Canadian currency is based on the decimal system with 100 cents (¢) to the dollar (\$). Paper currency is issued in \$1, \$2, \$5, \$10, \$20, \$50, \$100, \$500 and \$1,000 denomination. The most convenient denominations for general use are \$20.00 and under. It is best to cash larger bills at the bank, as some stores and restaurants may not accept them. Coins include the cent (1¢), nickel (5¢), dime (10¢), quarter (25¢), half dollar (50¢) and dollar (\$1).

Visitors should exchange their funds at any financial institution - bank, trust company, credit union, co-operative, caisse populaire or exchange booths at airports and border crossing points - where they will receive the prevailing rate exchange. They should use Canadian money while travelling in Canada.

Travellers' cheques in Canadian dollars are recommended, and can be purchased in major banks. In general, travellers' cheques are accepted by banks, restaurants, hotels and many business establishments.

7 HOTELS AND OTHER ACCOMMODATIONS

Canada offers a wide choice of lodgings and overnight accommodation. These include motels, motor hotels and luxury hotels.

Motels and motor hotels are normally situated along major highways and on through-traffic main arteries in urban locations. They are as comfortable as modern hotels and generally provide food services. Most have television in the rooms and swimming pools for the use of guests.

Soap and towels are provided to guests at no extra charge in hotels, motels and other lodging establishments in Canada.

Information on accommodation in Canada and approximate costs are available from automobile clubs, travel agents or Canadian Embassies or Consulates.

Advance reservations should be made through a travel agent for rooms in hotels or motels/motor hotels in larger cities. It is also suggested that reservations be made in advance at all major resorts in Canada. Further advance reservations can also be made in Canada through the services of the major hotel chains, which frequently employ multilingual personnel.

Hotels, airlines or travel bureaus may provide, at extra cost, some business services such as secretarial services, visiting cards, rentals, etc.



8        LAUNDRY AND DRY CLEANING

Laundry and dry cleaning services are good, quick and relatively inexpensive. Hotels offer same-day service (except on weekends) for dry cleaning, pressing or laundering. Ask for "Valet Service" or "Laundry Service". Dry cleaning (including pressing) and laundry facilities are listed in the yellow pages of the telephone directory. Self-serve laundromats are available at reasonable rates.

9        ELECTRIC CURRENT

Electricity in Canada is supplied at an alternating current of 110 volts (in Europe it is supplied at 220 volts). The frequency of Canadian electricity is 60 Hz, as in the US. Elsewhere it is 50 Hz. An electrical transformer is required to use appliances such as shavers and hair dryers made for use outside North America. Transformers are widely available in electric supply stores.

10       TRANSPORTATION

10.1     International

There are excellent facilities for travelling to Canada. It is recommended that visitors seek the advice of a travel agent who will be glad to assist with information regarding means and schedules for getting to Canada, hotel accommodation, prices, travel within Canada, etc.

10.2     Domestic

10.2.1   Airport Services

International airports in Canada are at Calgary, Edmonton, Gander, Halifax, Montréal, Ottawa, Regina, Toronto, Vancouver and Winnipeg. Special services offered to air travellers at most of these airports include: foreign exchange, coin-operated lockers, telephones, duty-free shops, bars, newsstands, bookstores, drugstores and shopping concourses. Several international airports have hotels nearby.

All of Canada's major airports offer transportation services by bus, taxi or limousine. All ground transportation services to city centres, and their rates (which are based on distance), are generally advertised in air terminals. Major car rental firms have outlets at all major airports.

Many transportation terminals have special facilities for handicapped travellers: ramps, washrooms, automatic doors, etc.

10.2.2   Transportation Companies Operating in Canada

Travel agents, or the nearest Canadian embassy or consulate general, should be consulted concerning travel in Canada. Once visitors have arrived in Canada, addresses and telephone numbers of airlines, railways, steamship lines, bus lines and car rental offices are listed in the yellow pages of the local telephone directory.



Air Carriers

Air Canada  
Place Air Canada  
500 Dorchester Blvd. West  
Montreal, Quebec  
H2Z 1X5

Canadian Airlines International  
Suite 2800  
700 - 2nd Street S.W.  
Calgary, Alberta  
T2P 2W2

Nordair Ltd.  
1320 Boulevard Graham  
Ville Mount-Royal, Quebec  
H3P 3C8

Québecair Inc.  
PO Box 490  
Ville St-Laurent, Quebec  
H4Y 1B5

Wardair  
325 Manulife Place  
1180-101 Street  
Edmonton, Alberta  
T5J 3S4

Railway companies

Algoma Central Railway  
289 Bay Street  
Sault Ste. Marie, Ontario  
P6A 5P6

Via Rail Canada Inc.  
P.O. Box 8116  
2, Place Ville-Marie  
Montreal, Quebec  
H3B 2G6

British Columbia Rail  
PO Box 8770  
Vancouver, British Columbia  
V6B 4X6

Ontario Northland  
Transportation Commission  
195 Regina Street  
North Bay, Ontario  
P1B 2J6

Motorcoach companies

Acadian Lines  
6040 Almon Street  
Halifax, Nova Scotia  
B3K 5M1

Gray Coach Lines, Limited  
700 Bay Street  
Toronto, Ontario  
M5G 2B6

Airport Transfer Company Limited  
71 Simmons Drive  
Burnside Industrial Park  
Dartmouth, Nova Scotia  
B3B 1N7

Greyhound Lines of Canada, Ltd.  
222 First Avenue, S.W.  
Calgary, Alberta  
T2P 0A6

## Business Trips

- 11 -

Brewster Transport Co. Ltd./  
Royal Glacier Tours  
PO Box 1140  
Banff, Alberta  
T0L 0C0

Frame and Perkins Ltd.  
PO Box 400  
Yellowknife, Northwest Territories  
X1A 2N3

Ontario Northland Transportation  
Commission (Ontario)  
195 Regina Street  
North Bay, Ontario  
P1B 2J6

Saskatchewan  
Transportation Co.  
2041 Hamilton Street  
Regina, Saskatchewan  
S4P 2E2

Pacific Coach Lines Ltd.  
737 Humboldt Street  
Victoria, British Columbia  
V8W 2B3

Via Rail Canada Inc.  
(Motor Coach Service)  
PO Box 8116  
2, Place Ville-Marie  
Montreal, Quebec  
H3C 2G6

Pacific Western Transportation Ltd.  
419-34th Avenue  
Calgary, Alberta  
T2G 1V1

Voyageur Colonial Ltd.  
265 Catherine Street  
Ottawa, Ontario  
K1R 7S5

S.M.T. (Eastern) Limited  
PO Box 6910  
Station "A"  
Saint John, New Brunswick  
E2L 4S3

Voyageur Enterprises Ltd.  
759 Victoria Square  
Montreal, Quebec  
H2Y 2J7

## Car Hire Companies

Avis Rent-A-Car System Inc.  
2 Eva Road  
Etobicoke, Ontario  
M9C 2A8

Budget Rent-A-Car of Canada Limited  
20 Eglinton Avenue West, Suite 1900  
Toronto, Ontario  
M4R 1K8

Thrifty Car Rental  
6711 Mississauga Road North  
Mississauga, Ontario  
L5N 2W3

Hertz Canada Ltd.  
1153 Martin Grove Road  
Rexdale, Ontario  
M9W 5P8

Tilden Rent-A-Car System  
1485 Stanley Street, Suite 905  
Montréal, Québec  
H3A 1P6

10.2.3 Air, Rail and Motorcoach Fares in Canada

TABLE 2  
AIR, RAIL AND MOTORCOACH FARES BETWEEN CANADIAN CITIES<sup>1</sup>

	<u>Halifax</u>	<u>Montreal</u>	<u>Ottawa</u>	<u>Toronto</u>	<u>Winnipeg</u>	<u>Edmonton</u>	
Montreal							
air		172					
rail		94					
motorcoach		78					
Ottawa							
air		186	94				
rail		105	16				
motorcoach		86	16				
Toronto							
air		228	139	119			
rail		126	49	43			
motorcoach		104	36	33			
Winnipeg							
air		387	291	253	253		
rail		212	149	139	134		
motorcoach		132*	99*	90	99*		
Edmonton							
air		526	432	416	394	215	
rail		276	214	204	199	96	
motorcoach		132*	99*	99*	99*	75	
Vancouver							
air		608	511	496	472	297	172
rail		328	266	256	251	153	81
motorcoach		132*	99*	99*	99*	104	65

\* Excursion fares.

Source: Air Canada; Canadian Airlines International; Via Rail; Voyageur Colonial.

<sup>1</sup> In Canadian dollars, economy class, one way; fares as of May 1987.

NOTE: Fares subject to change - please check before departure. Rates in round figures. There is a wide range of lower promotional fares available to those who qualify. Check with your travel agent or transportation company.

10.2.4 Car Hire Rates

Car hire rates average \$30.00 a day, depending on the size of car and whether or not there is unlimited kilometrage (mileage). Firms may offer several hundred kilometres free, or a daily rate with a kilometre charge added. Insurance is usually an extra charge. A credit card or a cash deposit is usually required.

Hiring a car can be a relatively inexpensive and convenient way to travel. However, if a car is hired in one city and dropped off in another, a sometimes quite substantial charge is made, depending upon the drop-off location.

Most car-hire companies do not rent vehicles to persons under 21 years of age.

10.2.5 Taxi Fares

Taxi fares vary but, on the average, there is an immediate charge of approximately \$1.55 upon entering the taxicab, and an additional \$1.25 or more for each kilometre. Taxi fares vary from city to city in Canada.

10.2.6 Bus and Subway Fares

For transportation within a city, the average fare starts at 90¢ or more. This includes transfer privileges. Fares are charged at a set rate, and do not vary according to distance travelled. Exact fares are required on many city buses, and visitors should ensure they have the correct change. Under the exact fare system, bus drivers do not sell tickets or carry money. Transfers should be requested when boarding a bus.

11 BUSINESS HOURS

Government offices 9:00 AM - 5:00 PM

Business houses 9:00 AM - 5:00 PM

Banks 10:00 AM - 3:00 PM

Monday to Friday, with extended hours at some locations on Thursday, Friday and Saturday.

12 HOLIDAYS IN CANADA

<u>All Canada</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
New Year's Day	Jan. 1	Jan. 1	Jan. 1
Good Friday	Apr. 17	Apr. 11	Mar. 24
Easter Monday	Apr. 20	Apr. 14	Mar. 27
Victoria Day	May 18	May 23	May 22
Canada Day	July 1	July 1	July 1
Labour Day	Sept. 7	Sept. 5	Sept. 4
Thanksgiving	Oct. 12	Oct. 10	Oct. 9
Remembrance Day	Nov. 11	Nov. 11	Nov. 11
Christmas Day	Dec. 25	Dec. 25	Dec. 25
Boxing Day	Dec. 26	Dec. 26	Dec. 26

Provincial Holidays

	<u>1987</u>	<u>1988</u>	<u>1989</u>
<u>Alberta</u> Heritage Day	Aug. 3	Aug. 1	Aug. 7
<u>British Columbia</u> British Columbia Day	Aug. 3	Aug. 1	Aug. 7
<u>Manitoba, Northwest Territories, Ontario, Saskatchewan</u> Civic Holiday	Aug. 3	Aug. 1	Aug. 7
<u>New Brunswick</u> New Brunswick Day	Aug. 3	Aug. 1	Aug. 7
<u>Newfoundland</u> St. Patrick's Day	Mar. 16	Mar. 14	Mar. 13
St. George's Day	Apr. 27	Apr. 25	Apr. 24
Discovery Day	June 22	June 27	June 26
Memorial Day	June 29	July 4	July 3
Orangeman's Day	July 15	July 11	July 10
<u>Quebec</u> Saint Jean-Baptiste	June 24	June 24	June 24
<u>Yukon</u> Discovery Day	Aug. 10	Aug. 8	Aug. 7

13      SHOPPING

Fine Canadian handicrafts and native products such as wood carvings, pottery, glass, jewellery, knitted or hand-woven goods and Inuit (Eskimo) art, as well as novelties, moccasins and other articles of clothing can be purchased as holiday souvenirs.

Some countries have restrictions against the importation of products from certain endangered marine mammals (polar bears, seals, walrus, etc.). Visitors planning to purchase these products should check the entry regulations in their home countries.

In most places, shops and stores are open until 5:30/6:00 PM and on Thursday and Friday until 9:00 PM. In some municipalities, depending on local by-laws, a limited number of shops are open in the evenings during the week. Many small neighbourhood stores remain open late at night and on Sunday, and sell groceries, some personal items and newspapers.



13.1 Clothing Sizes

Canadian sizes are different from British and European sizes, and it is recommended that clothing articles be tried on before purchase. Women's apparel in Canada has a standard size range of 5/6 to 20. Sweaters are usually sized small (S), medium (M), large (L), and extra large (XL).

13.2 Credit Cards

Most major credit cards and principal bank cards are honoured in Canada, but visitors are advised to check with their own banks before leaving home.

14 TELEGRAPH

Telegrams cannot be sent through the post offices in Canada. Telegrams or "Telepost" messages should be telephoned or delivered to CN/CP Telecommunications - addresses and telephone numbers can be found in the local telephone directories.

In Newfoundland and Labrador, telegrams are sent through Terra Nova Tel.

15 TIPPING

Tips or service charges are not usually added to a bill in Canada. In general, a tip of 10 to 15 percent of the total amount is given. This applies to waiters, waitresses, barbers and hairdressers, taxi drivers, etc. Bellhops, doormen, redcaps (porters), etc. at hotels, airports and railway stations are generally paid \$1.00 per item of luggage.

16. CANADIAN CUISINE

16.1 A Prize-Winning Tradition

The combination of certain indigenous products, native cooking methods, necessity and imagination have created a cuisine that, in 1984, resulted in a prize-winning effort in the World Culinary Olympics in Frankfurt, Germany. Competing with chefs from over 20 countries, Canada placed first overall in the eight-day, round-the-clock contest. In 1976, Canada placed second overall, with Switzerland placing first.

16.2 A Regional Perspective

Canadian chefs' recipes demonstrate the distinctiveness of Canadian cuisine featuring Canadian products. Beef and salmon dishes are clearly national favourites. Regional favourites include: fish and seafood dishes, five varieties of salmon, oysters, fresh halibut, Pacific prawns and Dungeness crab, fresh fruits (particularly apples) and products of the interior British Columbia orchard industry. Alberta, Saskatchewan and Manitoba are usually known for their beef, but also buffalo (now commercially available, although still in limited quantities), wild rice, Winnipeg goldeye, whitefish, and arctic char.

Ontario, the cheddar cheese capital of the world, also provides vegetables such as corn and tomatoes, fowl including turkey and chicken, freshwater fish and Ontario apples and grapes.

Quebec, long recognized for its superb cuisine, has a tradition of distinctive food dating back to the days of New France when settlers adapted traditional French recipes to Canadian ingredients. Quebec tourtière, habitant pea soup, pork and veal in many forms and recipes featuring maple syrup products, form part of this province's offerings.

The Atlantic provinces are also famous for fish and vegetables dishes. Restigouche salmon, salt and freshwater fish, scallops and lobsters are popular favourites. New Brunswick fiddleheads and Prince Edward Island and New Brunswick potatoes are staples from this area.

In addition to the above Canadian specialties, the country's cuisine is complemented by a rich variety of game and ethnic dishes, in keeping with Canada's cultural mosaic, which are served by restaurants coast to coast. Italian, French, Chinese, Japanese, German, Ukranian, Hungarian, Mexican, Middle Eastern and Indo-Pakistani foods are some of the major ethnic offerings.

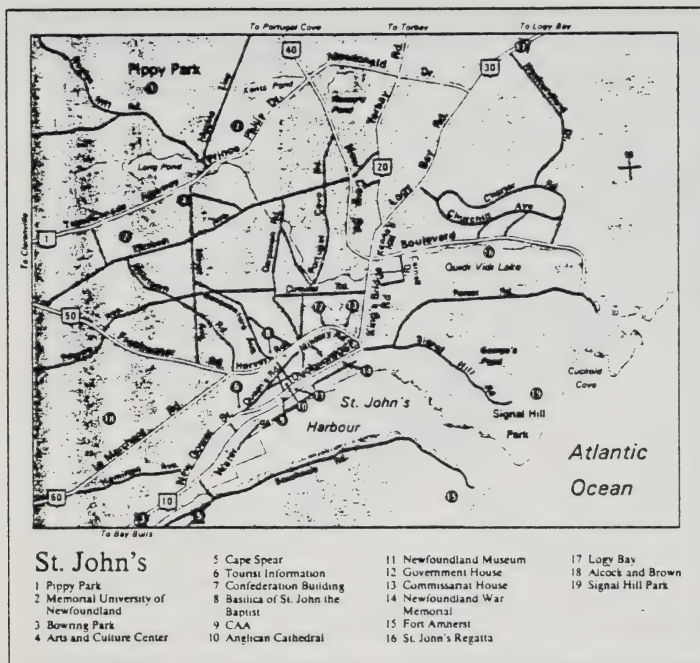
## 17 LANGUAGES

According to the 1981 census, English and French respectively were spoken in the homes of 68 and 25percent of Canadians. The remaining 7percent had a variety of other mother tongues, among the more significant being: Italian, German, Ukranian, Chinese, Indo-Pakistani and native peoples' languages. As Table 3 shows, these language groups are scattered throughout the Canadian provinces.

## 18 MAPS OF CANADIAN CITIES

St. John's  
Saint John  
Montreal  
Toronto  
London  
Ottawa  
Winnipeg  
Saskatoon  
Edmonton  
Victoria

Halifax  
Fredericton  
Québec  
Hamilton  
Windsor  
Kingston  
Regina  
Calgary  
Vancouver







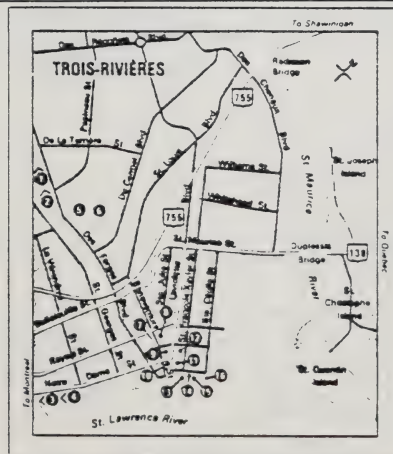
## Quebec

- 1 Grand Théâtre de Québec
- 2 National Assembly
- 3 CAA
- 4 National Battlefields Park

- 5 Jesuit Chapel
- 6 Tourist Information
- 7 The Fortifications
- 8 Armillary Park
- 9 Ursuline Convent

- 10 Wolfe-Montcalm Monument
- 11 Dufferin Terrace
- 12 Talon's Vaults
- 13 Hôtel-Dieu Hospital

- 14 Basilica of Notre-Dame
- 15 Quebec Seminary
- 16 Musée du Fort
- 17 Place Royale



- 1 CAA
- 2 Université du Québec à Trois-Rivières
- 3 Tourist Information (summer only)
- 4 Vieux Moulin à Fanne
- 5 Maison Grano Pnx

- 6 Exhibition Grounds
- 7 Champlain Park
- 8 Cathedral of the Immaculate Conception
- 9 Tourist Information
- 10 Le Flambeau

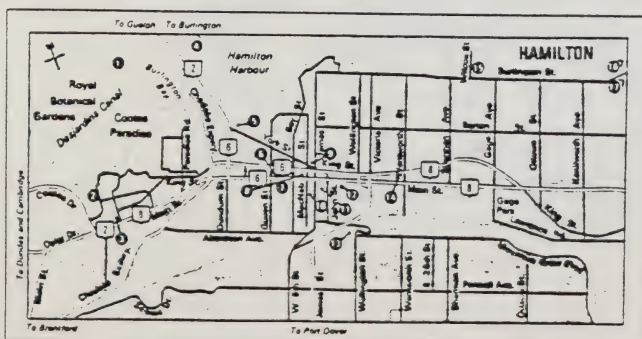
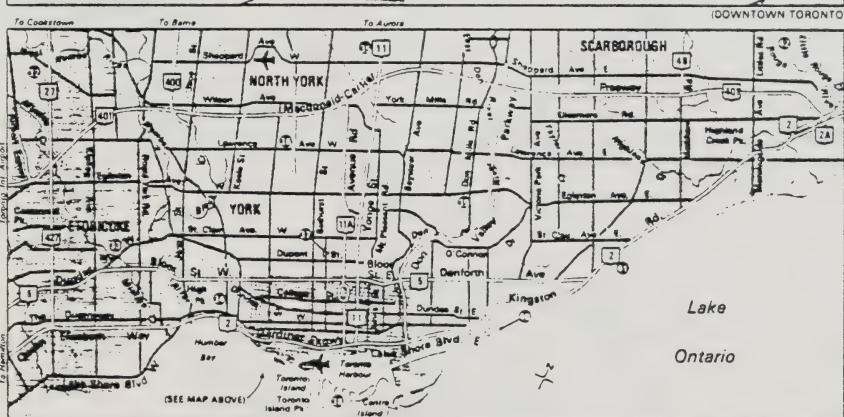
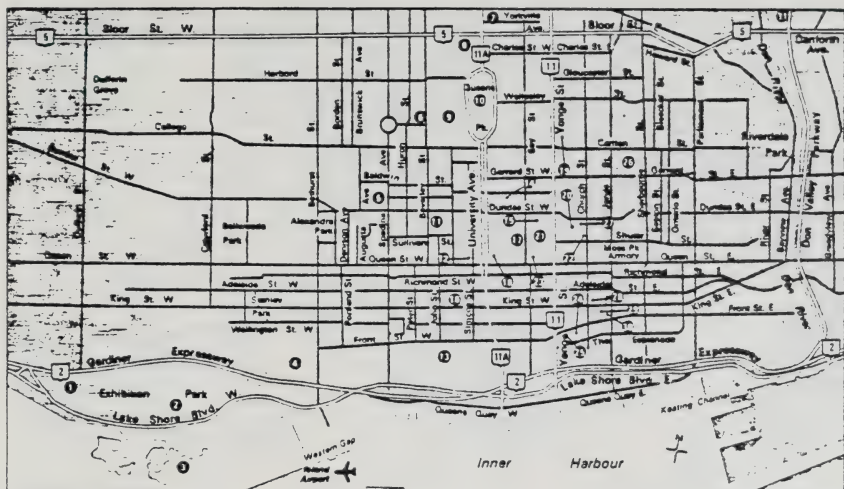
- 11 De Tonnancour House
- 12 Place d'Armes
- 13 St. James Anglican Church
- 14 Sieur des Groseilliers
- 15 Ursuline Convent
- 16 Turcotte Terrace





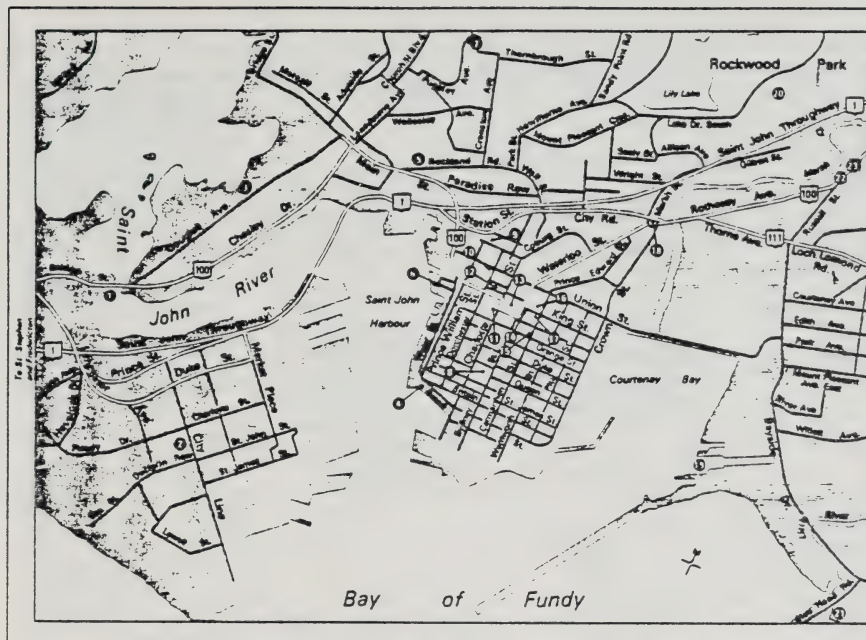
# Toronto

- 1 Canadian National Exhibition
- 2 Manner Museum of Upper Canada
- 3 Ontario Place
- 4 Fort York
- 5 Kensington Market
- 6 Macdonald-Mowat House
- 7 Yorkville Village
- 8 Royal Ontario Museum
- 9 University of Toronto
- 10 Queens Park
- 11 Art Gallery of Ontario
- 12 William Campbell House
- 13 CN Tower
- 14 Chinatown
- 15 Tourist Information
- 16 Royal Alexandra Theatre
- 17 City Hall
- 18 Osgoode Hall
- 19 CAA
- 20 Massey Hall
- 21 Eaton Center
- 22 St. Michael's Cathedral
- 23 Old City Hall
- 24 St. Lawrence Center
- 25 O'Keefe Center
- 26 Allan Gardens
- 27 Mackenzie House
- 28 St. James Cathedral
- 29 St. Lawrence Hall
- 30 St. Lawrence Market
- 31 Todmorden Mills Park
- 32 Woodbine Racetrack
- 33 Montgomery's Inn
- 34 High Park
- 35 Gibson House
- 36 Craven Foundation Automobile Collection
- 37 Casa Loma
- 38 Toronto Island Park
- 39 Ontario Science Center
- 40 The Beaches
- 41 Scarborough Bluffs
- 42 Metropolitan Toronto Zoo



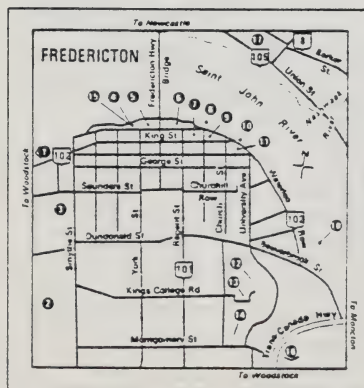
- 1 Royal Botanical Gardens
- 2 McMaster University
- 3 Art Gallery of Hamilton
- 4 Tourist Information (summer only)
- 5 Dundurn Castle
- 6 Hess Village
- 7 Canadian Football Hall of Fame
- 8 Hamilton Place
- 9 Hamilton Market
- 10 Whitehorn
- 11 Courthouse
- 12 Tourist Information
- 13 Sam Lawrence Park
- 14 CAA
- 15 Steel Company of Canada
- 16 Burlington Skyway Bridge
- 17 Burlington Ship Canal





## Saint John

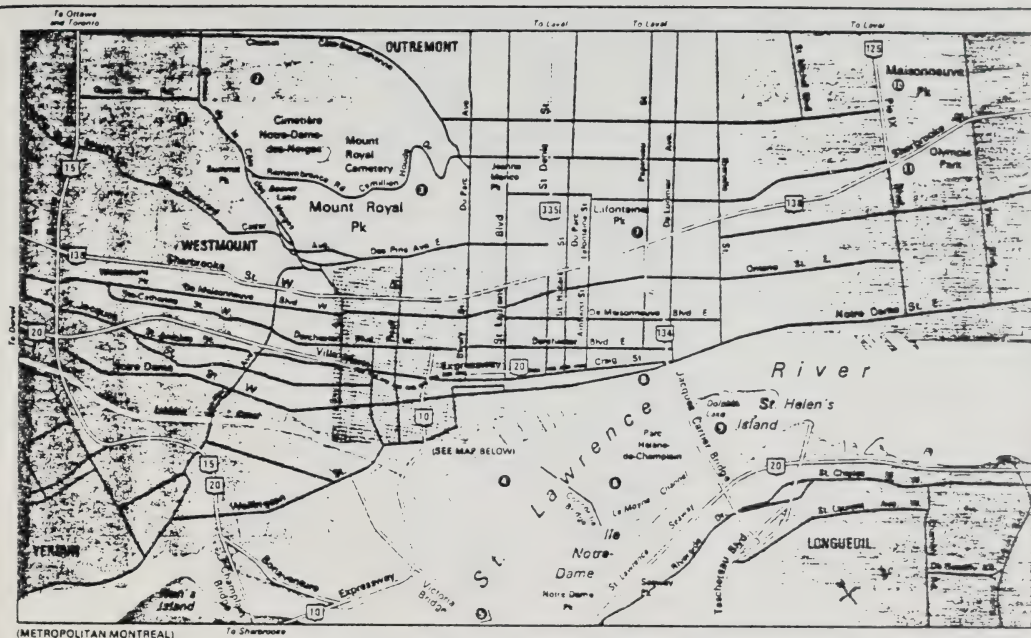
- 1 Reversing Falls
- 2 Carleton Martello Tower
- 3 New Brunswick Museum
- 4 Reid's Point
- 5 Fort Howe
- 6 Loyalist Landing Place
- 7 University of New Brunswick
- 8 Samuel de Champlain
- 9 Saint John's Stone Church
- 10 Loyalist House
- 11 Trinity Church
- 12 Old City Market
- 13 King Square
- 14 County Courthouse
- 15 Tourist Information
- 16 Loyalist Burial Ground
- 17 Harbour's General Store
- 18 CAA
- 19 Saint John Dry Dock
- 20 Rockwood Park
- 21 Mipec
- 22 Atlantic National Exhibition
- 23 Rothesay Collegiate School



- 1 Old Government House
- 2 Odell Park
- 3 Exhibition Grounds
- 4 City Hall
- 5 Military Compound
- 6 Officers' Square
- 7 The Playhouse
- 8 Beaverbrook Art Gallery
- 9 Legislature Building
- 10 The Green
- 11 Christ Church Cathedral
- 12 Pict's Corner
- 13 University of New Brunswick
- 14 St. Thomas University
- 15 Tourist Information Center
- 16 Tourist Information (open in summer only)
- 17 Fort Nashua (cannon)
- 18 Loyalist Burial Ground







(METROPOLITAN MONTREAL)

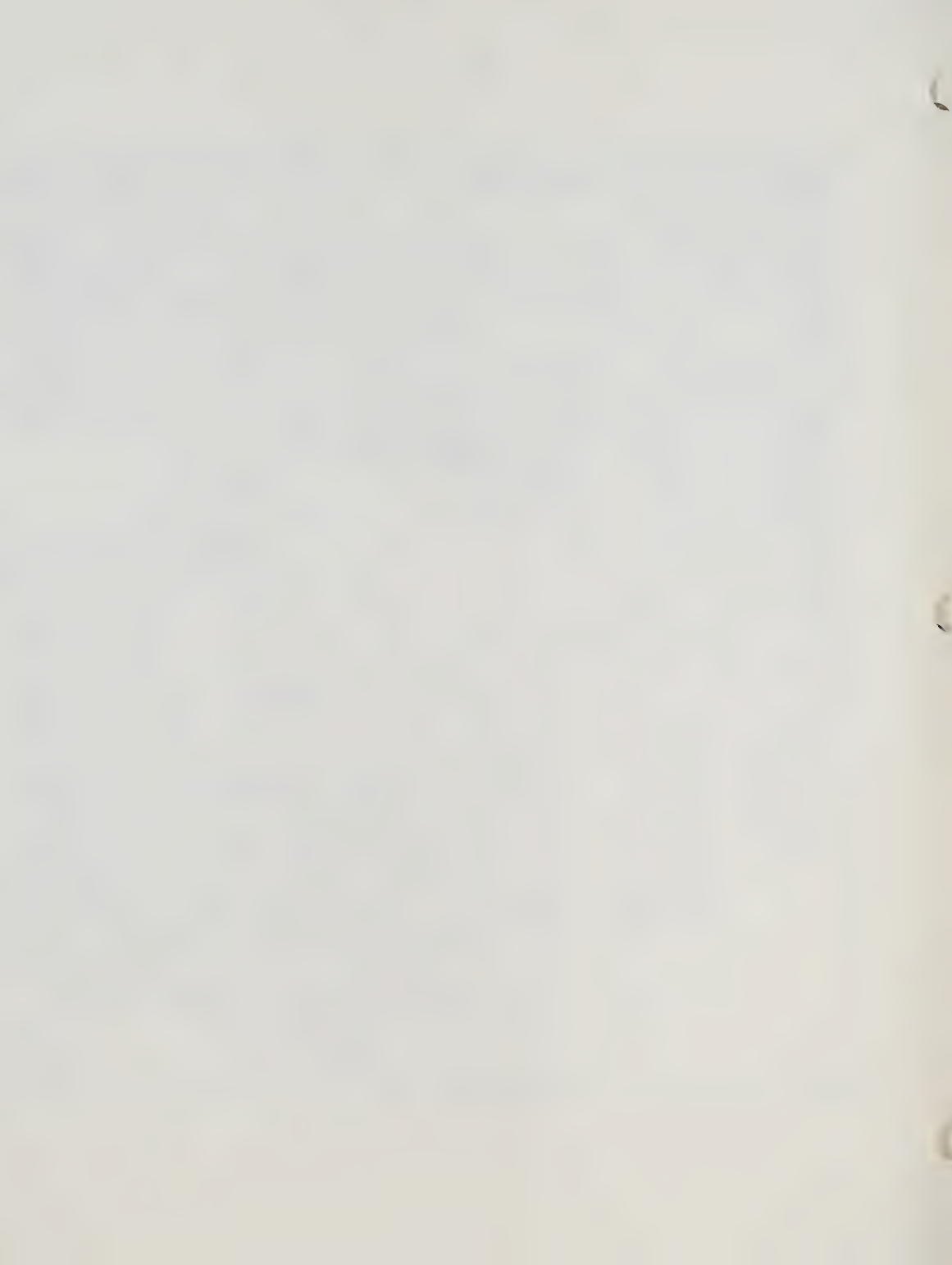
## Montreal

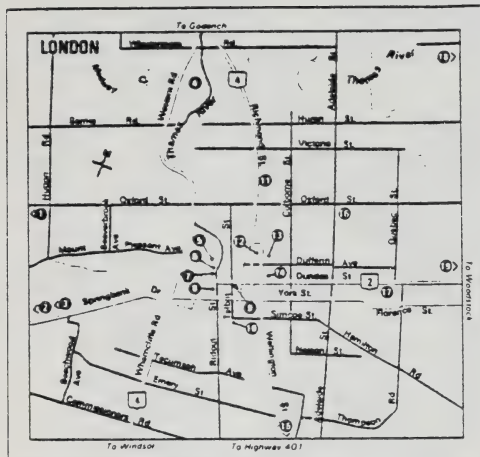
- |                               |                                      |
|-------------------------------|--------------------------------------|
| 1 St. Joseph's Oratory        | 12 Montreal Museum of Fine Arts      |
| 2 Université de Montréal      | 13 Dominion Gallery                  |
| 3 Mount Royal Park            | 14 Tourist Information               |
| 4 Cité du Havre               | 15 Mary Queen of the World Cathedral |
| 5 St. Lawrence Seaway         | 16 Dow Planetarium                   |
| 6 Man and His World           | 17 McGill University                 |
| 7 LaFontaine Park             | 18 CAA                               |
| 8 Molson Brewery              | 19 Place Ville-Marie                 |
| 9 St. Helen's Island          | 20 Place Victoria                    |
| 10 Montreal Botanical Gardens | 21 Place d'Youville                  |
| 11 Olympic Park               | 22 Place des Arts                    |
|                               | 23 Complexe Desjardins               |
|                               | 24 Bank of Montreal Museum           |
|                               | 25 Notre-Dame Church                 |
|                               | 26 Old Montreal                      |
|                               | 27 Château de Ramezay                |
|                               | 28 Bonsecours Market                 |
|                               | 29 Notre-Dame-de-Bon-Secours Chapel  |



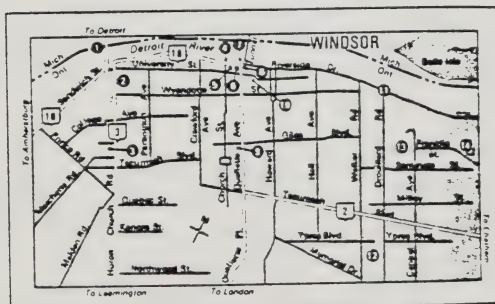
(DOWNTOWN MONTREAL)

Underground Highway



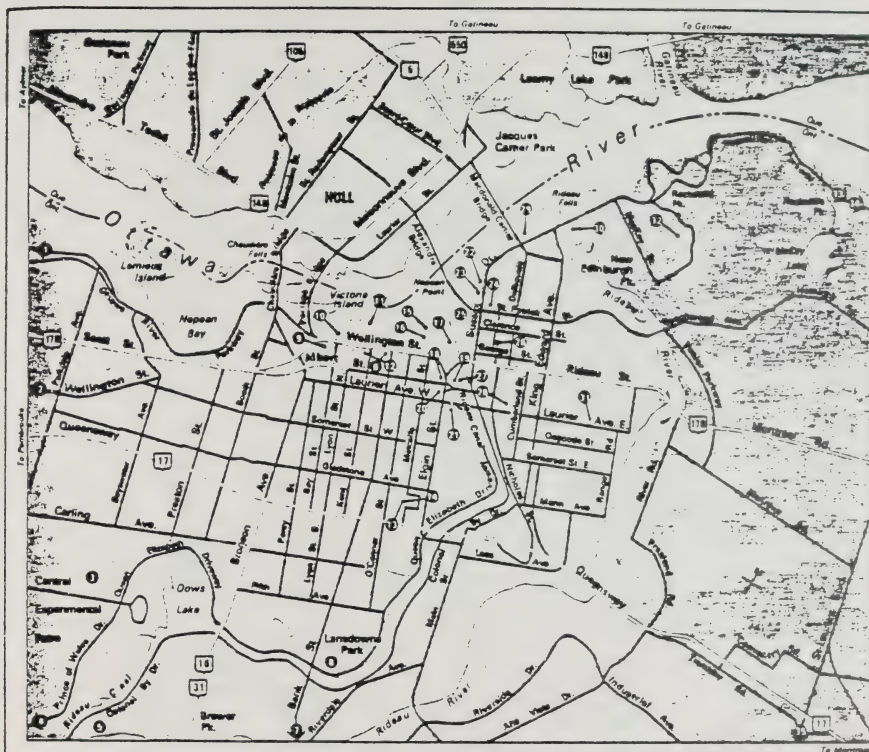


- |                         |                           |                             |
|-------------------------|---------------------------|-----------------------------|
| 1 Siton Botanical Bug   | 7 Kid-out Restoration     | 15 Tourist Information      |
| 2 Springbank Park       | 8 Courthouse              | (summer only)               |
| 3 Sturtevant Gardens    | 9 Covent Garden           | 16 Royal Canadian           |
| 4 University of Western | 10 Labatt Pioneer Brewery | Regiment Museum             |
| Ontario                 | 11 Sir Adam Beck House    | 17 Western Fair             |
| 5 Flinn House           | 12 St Paul's Cathedral    | 18 Fanshawe Pioneer Village |
| 6 London Regional       | 13 Tourist Information    | 19 CAA                      |
| Art Gallery             | 14 Centennial Museum      |                             |



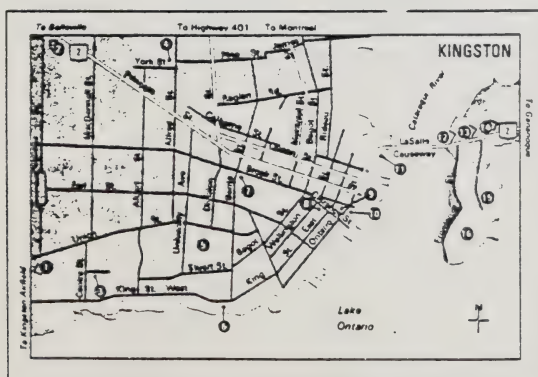
- |                            |                            |
|----------------------------|----------------------------|
| 1 Ambassador Bridge        | 7 Dieppe Gardens           |
| 2 University of Windsor    | 8 Tourist Information      |
| 3 Tourist Information      | 9 CAA                      |
| 4 Art Galleries of Windsor | 10 Tourist Information     |
| 5 Hiram Walker             | 11 Hiram Walker Distillery |
| Historical Museum          | 12 Chrysler                |
| 6 Cleary Auditorium        | 13 Ford of Canada          |
|                            | 14 General Motors          |





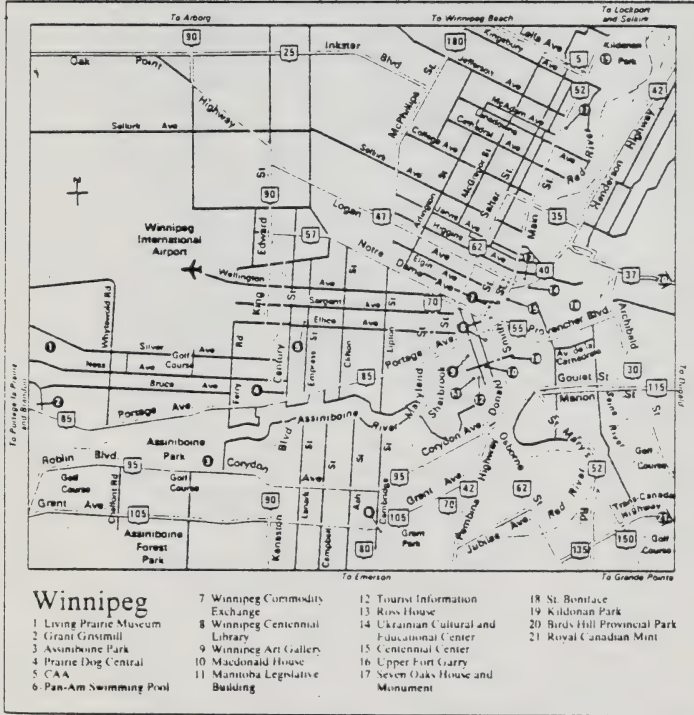
## Ottawa

- 1 Kitchissippi Lookout
- 2 CAA
- 3 Central Experimental Farm
- 4 Museum of Canadian Scouting
- 5 Carleton University
- 6 National Postal Museum
- 7 Billing's Estate
- 8 Ottawa Civic Center
- 9 Garden of the Provinces
- 10 Public Archives of Canada
- 11 Supreme Court
- 12 Saint Andrew's Church
- 13 National Museum of Man
- 14 National Museum of Natural Science
- 15 Parliament Buildings
- 16 Changing the Guard
- 17 Bytown Museum
- 18 Canadian Film Institute
- 19 National Arts Center
- 20 National Gallery
- 21 Governor General's Foot Guard - Museum
- 22 Royal Canadian Mini
- 23 Canadian War Museum
- 24 Notre-Dame Basilica
- 25 Major's Hill Park
- 26 By Ward Market
- 27 Tourist Information
- 28 University of Ottawa
- 29 Earncliffe
- 30 City Hall
- 31 Laurier House
- 32 Government House
- 33 R.C.M.P. "N" Division
- 34 National Aeronautical Collection
- 35 National Museum of Science and Technology

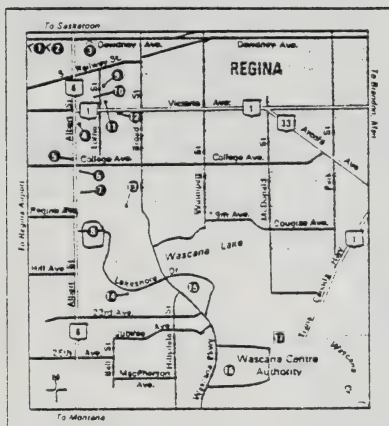




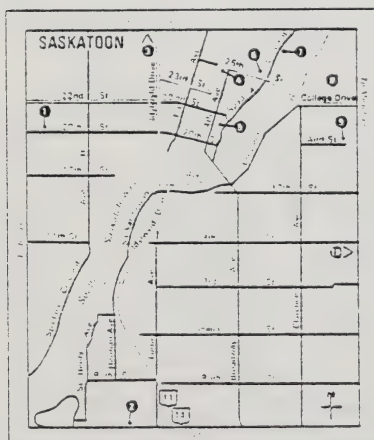








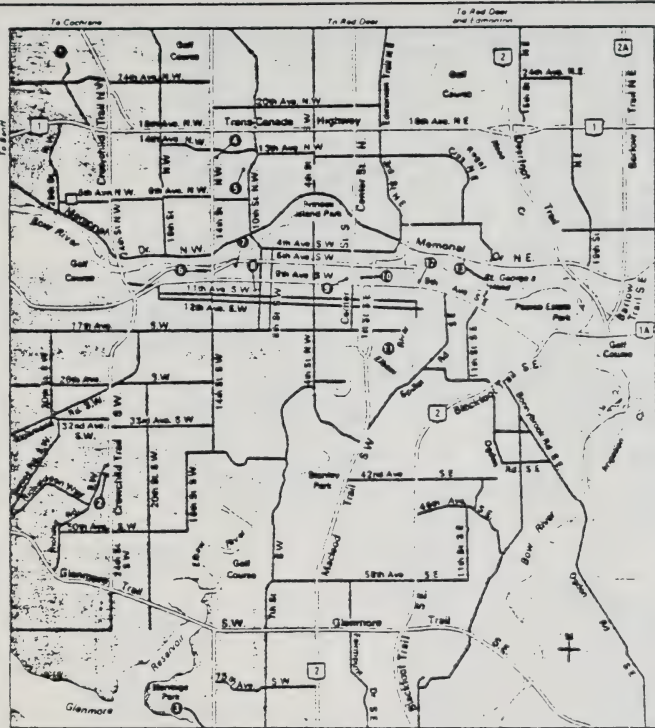
- |                       |                       |                         |
|-----------------------|-----------------------|-------------------------|
| RCMP Detrit Division  | Legislative Building  | 14 Dietricher           |
| Saskatchewan House    | 9 Tourist Information | Homestead               |
| CAA                   | 10 Dunlop Art Gallery | 15 Saskatchewan         |
| 1 Tourist Information | 11 Victoria Park      | Centre of               |
| 2 Tourist Information | 12 Saskatchewan       | the Arts                |
| 3 Saskatchewan        | Power Building        | 16 University of Regina |
| 4 Museum of           | 13 Wascana            | 17 Wascana Centre       |
| Natural History       | Waterville Park       | Authority               |
| 5 Sneakers Corner     |                       |                         |



- |                       |                       |                              |
|-----------------------|-----------------------|------------------------------|
| 1 Museum of           | 4 CAA                 | 8 University of              |
| 2 Ukrainian Culture   | 5 Tourist Information | Saskatchewan                 |
| 3 Western             | 6 Tourist Information | 9 Ukrainian Museum           |
| Development           | 7 Museum of           | 10 Centre of Arts and Crafts |
| Museum                | 8 Dunlop Art Gallery  | 11 Tourist Information       |
| 9 Tourist Information | and Saskatchewan      | summer only                  |
| summer only           |                       |                              |







## Calgary

- 1 University of Calgary
- 2 P.P.C.L.I. (Princess Patricia's Canadian Light Infantry)

- 3 Heritage Park
- 4 Southern Alberta Jubilee Auditorium
- 5 Burns Memorial Gardens
- 6 Tourist Information/Mewata Park

- 7 Calgary Centennial Planetarium
- 8 CAA
- 9 Calgary Tower
- 10 Glenbow Center

- 11 Calgary Exhibition and Stampede Park
- 12 Fort Calgary
- 13 St. George's Island



## Edmonton

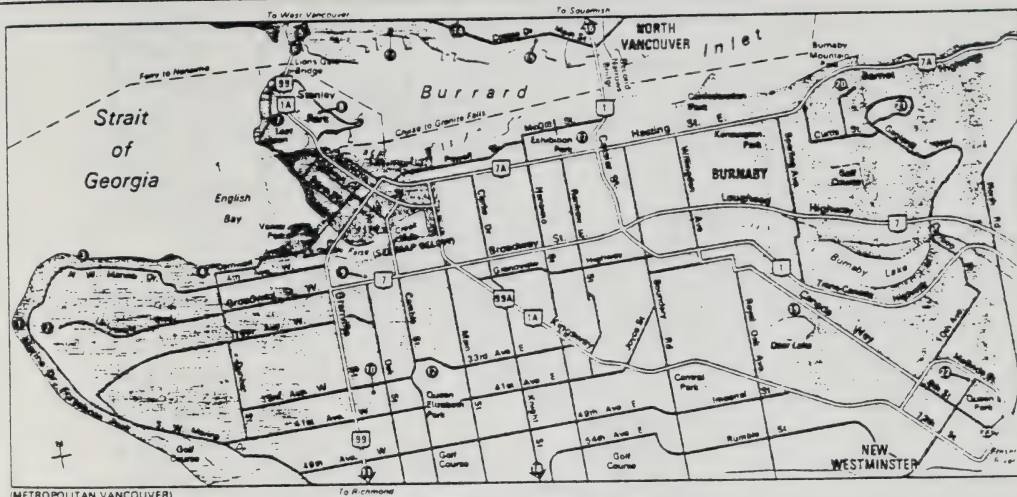
- 1 Fort Edmonton Park
- 2 Provincial Museum of Alberta
- 3 University of Alberta
- 4 High Level Bridge

- 5 Capital City Recreation Park
- 6 CAA
- 7 Legislative Building
- 8 Old Strathcona
- 9 Tourist Information

- 10 Alberta Telephone Tower
- 11 Edmonton Art Gallery
- 12 Citadel Theater
- 13 Canada's Aviation Hall of Fame
- 14 Muttart Conservatory

- 15 Commonwealth Games Facilities
- 16 Northlands Exhibition Grounds
- 17 Refinery Row



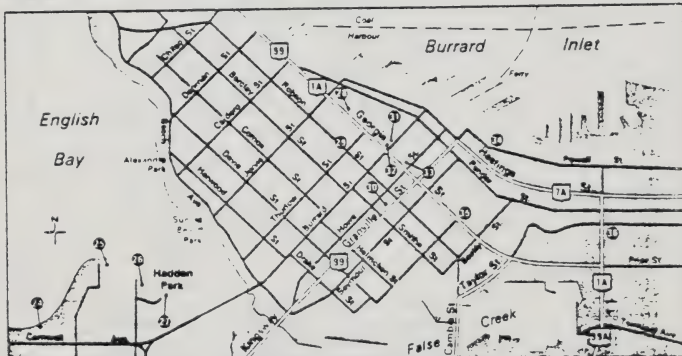


METROPOLITAN VANCOUVER

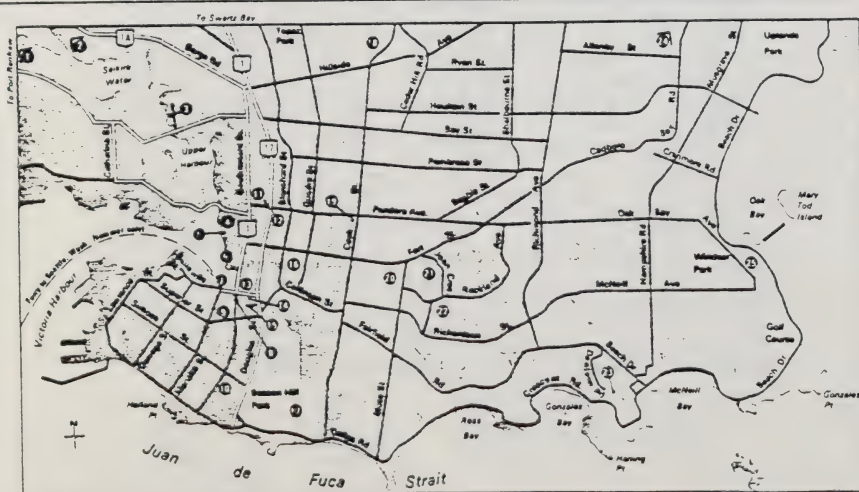
## Vancouver

- 1 Nitobe Memorial Gardens
- 2 University of British Columbia
- 3 Spanish Banks
- 4 Old Hastings Mill Store Museum
- 5 Capilano Canyon Park
- 6 Grouse Mountain
- 7 Stanley Park
- 8 Vancouver Public Aquarium
- 9 CAA
- 10 Vancouver Botanical Display Garden
- 11 Richmond Arts Center
- 12 Queen Elizabeth Park
- 13 Royal Hudson
- 14 Lighthouse Park
- 15 Park and Tilford Gardens
- 16 Lynn Canyon Park
- 17 Exhibition Park
- 18 Resil Waterfowl Refuge
- 19 Heritage Village

- 20 Burnaby Mountain Park
- 21 Simon Fraser University
- 22 Centennial Lactose Hall of Fame
- 23 Irving House
- 24 Kitsilano Beach
- 25 Maritime Museum
- 26 MacMillan Planetarium
- 27 Centennial Museum
- 28 Vancouver Art Gallery
- 29 Robsonstrasse
- 30 Orpheum Theater
- 31 Tourist Information
- 32 Christ Church Cathedral
- 33 Centennial Fountain
- 34 Gastown
- 35 Queen Elizabeth Theater
- 36 Chinatown



DOWNTOWN VANCOUVER

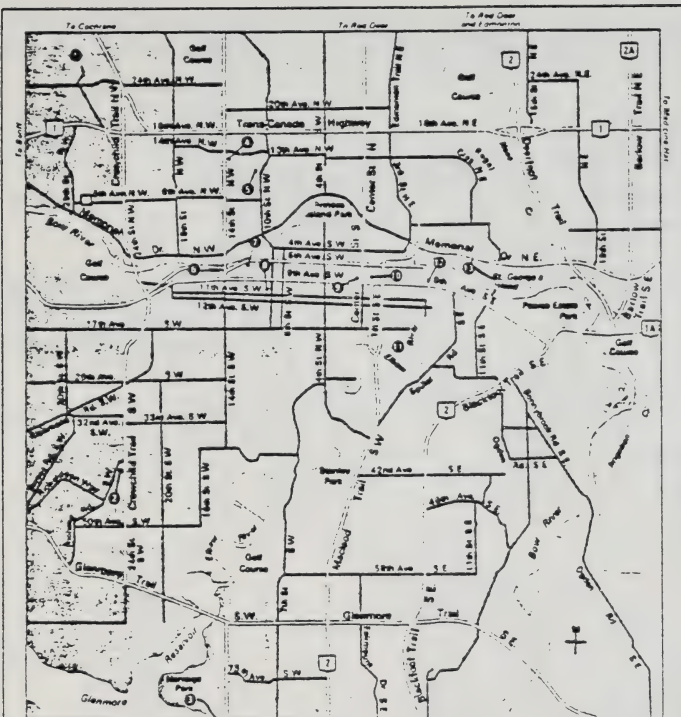


## Victoria

- 1 Craigflower Sunolhouse Museum
- 2 Craigflower Manor
- 3 Point Ellice House Museum
- 4 Bastion Square
- 5 Maritime Museum of British Columbia
- 6 Tourist Information
- 7 Pacific Undersea Gardens Limited
- 8 British Columbia Provincial Archives
- 9 British Columbia Provincial Museum
- 10 Parliament Buildings
- 11 Emily Carr House
- 12 Centennial Square
- 13 McPherson Playhouse
- 14 Empress Hotel
- 15 Thunderbird Park
- 16 Helmcken House Historical Museum
- 17 Christ Church Cathedral
- 18 Beacon Hill Park
- 19 Spencer Castle
- 20 CAA
- 21 Art Gallery of Greater Victoria
- 22 Craigdarroch Castle
- 23 Government House
- 24 Walbran Park
- 25 University of Victoria
- 26 Sealand of the Pacific Limited







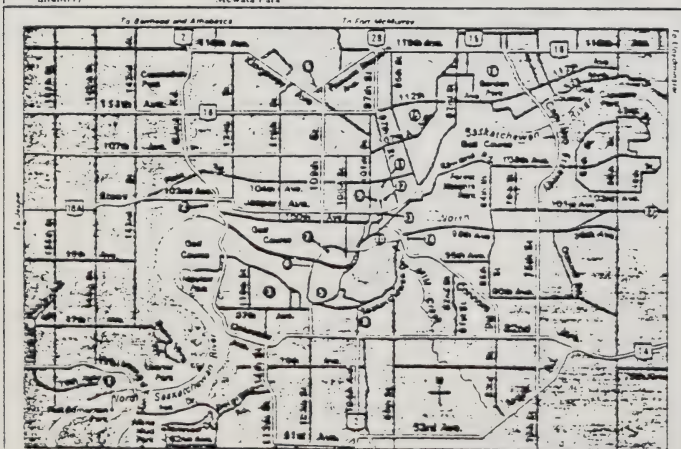
## Calgary

- 1 University of Calgary
- 2 P.P.C.I. (Ponca)
- 3 Patricia's Canadian Light Infantry

- 3 Heritage Park
- 4 Southern Alberta Jubilee Auditorium
- 5 Burns Memorial Gardens
- 6 Tourist Information/Mewata Park

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- 10 Glenbow Center

- 11 Calgary Exhibition and Stampede Park
- 12 Fort Calgary
- 13 St. George's Island



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- 3 University of Alberta
- 4 High Level Bridge

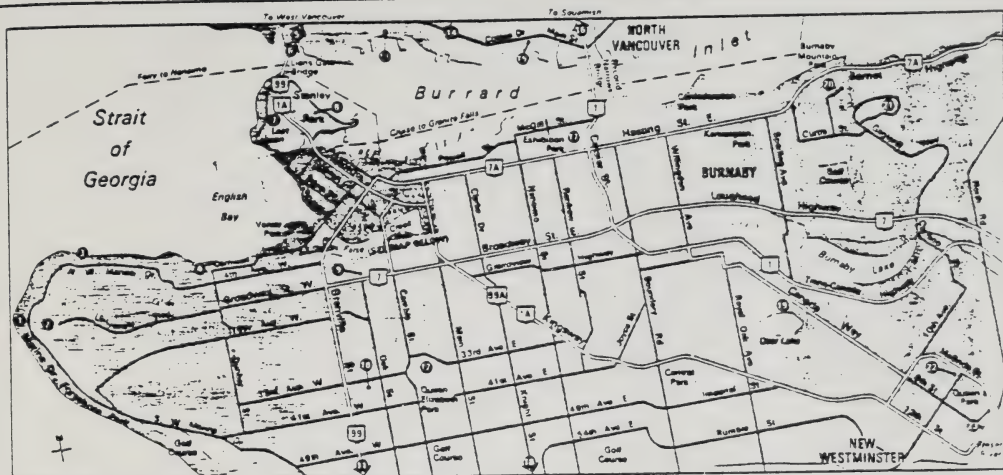
- 5 Capital City Recreation Park
- 6 CAA
- 7 Legislative Building
- 8 Old Strathcona
- 9 Tourist Information

- 10 Alberta Telephone Tower
- 11 Edmonton Art Gallery
- 12 Citadel Theatre
- 13 Canada's Aviation Hall of Fame
- 14 Mutant Conservatory

- 15 Commonwealth Games Facilities
- 16 Northlands Exhibition Grounds
- 17 Rensselaer Row





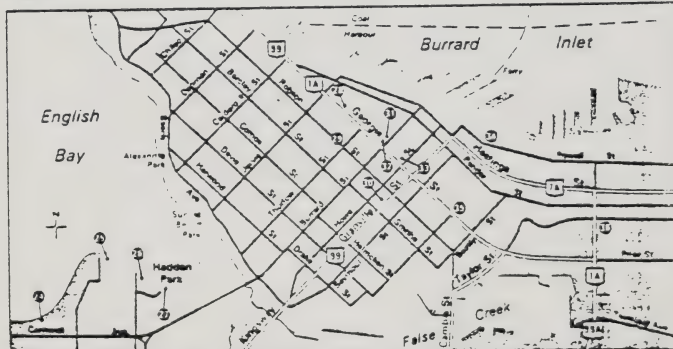


METROPOLITAN VANCOUVER

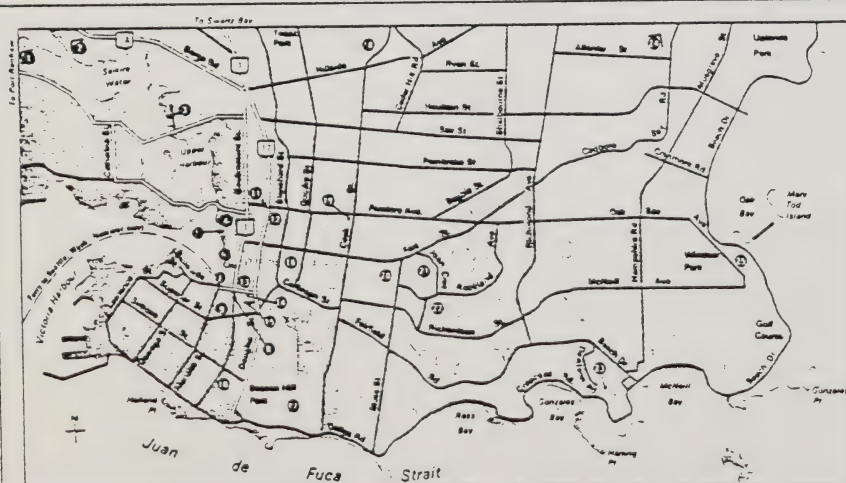
## Vancouver

- 1 Niobe Memorial Gardens
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- 12 Richmond Arts Center
- 13 Queen Elizabeth Park
- 14 Royal Hudson
- 15 Lighthouse Park
- 16 Park and Tilford Gardens
- 17 Lynn Canyon Park
- 18 Exhibition Park
- 19 Refectory Waterfowl Refuge
- 20 Heritage Village

- 20 Burnaby Mountain Park
- 21 Simon Fraser University
- 22 Centennial Lacrosse Hall of Fame
- 23 Irving House
- 24 Kitsilano Beach
- 25 Maritime Museum
- 26 MacMillan Planetarium
- 27 Centennial Museum
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DOWNTOWN VANCOUVER



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